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TANGANYIKA TERRITORY

# Annual Medical and Sanitary Report

For year ended 31st December

# 1934

Including the Annual Report of the Medical Laboratory, Dar es Salaam

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Office of the
Director of Medical Services,
Dar es Salaam,
Tanganyika Territory.
*25th November, 1935.*

Sir,

I have the honour to submit, for the information of His Excellency the Governor and for transmission to the Right Honourable the Secretary of State for the Colonies, the Medical Report on the health and sanitary condition of the Tanganyika Territory for the year 1934, together with the Report of the Medical Laboratory at Dar es Salaam

I have the honour to be,
Sir,
Your obedient servant,
R. R. Scott,
*Director of Medical Services*

The Honourable
The Chief Secretary to the Government,
Dar es Salaam.

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# TANGANYIKA TERRITORY.

## Annual Medical Report for 1934.

### Introductory.

It is fitting to begin the report by recording the departure on 19th November on leave prior to retirement from the Service of Dr. A. H. Owen, Director of Medical and Sanitary Services, under whom it had been the writer's privilege to serve in close association since 1922, when Dr. Owen came to us from Uganda to take charge of the Sanitation branch of the Department. During his service in this Territory Dr. Owen saw the department grow from small beginnings, and it was his misfortune that his tenure of the directorship, which he had only held from 2nd January, 1932, lay in the difficult period of retrenchment, when the constant call for savings in every direction prevented his initiating the new measures which his great power of foresight would have enabled him to introduce had times been better. His shrewdness and financial ability, with which were combined an unfailing kindness and geniality, proved of the greatest value throughout this trying period and enabled him to effect considerable reduction in the expenditure of the department with little retrenchment of personnel, while maintaining an increase in the number of patients treated. The sincere good wishes of the department go with him and Mrs. Owen in their retirement.

It is pleasing to record that Dr. J. O. Shircore, C.M.G., who was Director of Medical and Sanitary Services from 1924 to 1932, was appointed to be an Unofficial Member of Legislative Council with effect from 30th January, 1934.

The Nursing Service in the African colonies lost a valued protagonist on 23rd March by the untimely death of Miss F. M. Plant, M.B.E., Matron, who died in Guy's Hospital, her old training school, only three weeks after retiring on pension, following twenty-five years of devoted nursing service in this country. The loss of this kindly and indefatigable worker was deeply felt by all who had known her, and the memory of a splendid and unselfish woman who gave of her best to the sick in Africa will always remain with those who had the privilege of working with her.

It would be ungrateful not to refer to the invaluable assistance which the Territory has received from the Colonial Development Fund, in the shape of grants for Tuberculosis, Malaria and Trypanosomiasis Research and Survey work; and to the generosity of the trustees of the Carnegie Corporation, who provided travelling fellowships which permitted Dr. Wilcocks to study tuberculosis in Europe, and for Dr. D. B. Wilson to visit India to see the work being carried on to combat malaria in that country.

It is regrettable to record that the health of officials has been less satisfactory than during the three previous years. The gradual fall which took place during that period in the average sick time per official resident has not been maintained, as can be seen from the figures below.

Average number of days lost through sickness per official resident :—

| | 1931 | 1932 | 1933 | 1934 |
|---|---|---|---|---|
| Europeans ... | 6·63 | 5·69 | 4·58 | 7·41 |
| Asians ... ... | 7·21 | 5·12 | 3·59 | 4·89 |

Similarly, the proportion of invalidings to the total number of officials resident has again risen.

Percentage of invalidings of officials resident :—

| | 1931 | 1932 | 1933 | 1934 |
|---|---|---|---|---|
| Europeans ... | 0·57 | 0·43 | 0·35 | 0·83 |
| Asians ... ... | 0·75 | 0·48 | 0·45 | 0·52 |

It is more pleasing to record that for the first year on record no deaths of European officials took place in the Territory.

Fuller details relating to the health of officials are given in the table on page 28.

The general health of the Territory was not affected by any very extensive outbreaks of dangerous infectious disease, though the small outbreak of virulent smallpox at Tanga, which appears to have been imported, gave some cause for alarm. There was a satisfactory reduction in the number of cases of sleeping sickness and deaths therefrom ; while the attendance of sick persons at medical units throughout the Territory maintained a steady increase. The number of confinements of native women in the clinics increased and this work is making marked progress at Tanga where interest is taken in it by members of the unofficial communities.

Arrangements were made for increased inspection by medical officers of the tribal dressing stations maintained by the Native Authorities, and the courses of training for the personnel for these stations were greatly extended and improved.

An emergency nursing service was inaugurated by the Women's Service League who maintain a list of qualified nurses and other ladies not at present engaged in nursing who would be willing to help in emergency. Such an organization has been badly needed and should prove most valuable to those unable to go into a hospital.

The report of the Acting Deputy Director of Laboratory Service (page 77) presents some interesting features. The scheme of reducing the fees to private medical practitioners has resulted in the submission of an increased number of specimens for examination and in an increase of revenue. Attention is called to the high percentage of positive findings for tuberculosis in specimens from Africans. A method of sending samples of milk from up-country stations for estimation of fat has been devised which will enable "watering" at places other than Dar es Salaam to be more accurately determined and controlled. The need of legislation to prevent the adulteration of food is again pointed out.

I wish to acknowledge with special gratitude the assistance rendered by officials of the Posts and Telegraphs Department in maintaining and obtaining communication with up-country stations by telegraph or telephone, often under conditions of great technical difficulty, in cases of emergency where speed in the transmission of messages is all-important.

A scheme of decentralization of the administrative work of the department is being worked out on a provincial basis; perusal of the abstract from the report of the Medical Officer of Health of the Lake Province (page 36) will show what valuable work can be done when rural medical problems are attacked on broad lines and with the active co-operation of other departments of Government and the Native Authorities.

Brief reference may here be made to the lines along which development of medical services will have to proceed if the facilities already provided are to be utilized to the best advantage of the Territory.

Consolidation of the existing framework is necessary. The foundations of the service, i.e. the most widely dispersed and numerous medical units, are the tribal dressers who are in closest touch with the native population. To raise the standard of their work and increase and maintain the confidence of the population is essential for progress, for by so doing we prepare the soil on which to implant the idea of prevention of disease, the conception of which is so small, though the need is so great among a primitive people.

In the past we have been far too apt to confine our attention to hospital treatment, serving only a limited area in any one district. We must all take a broader view of the problems before us and utilize the available resources for the greatest benefit of the largest number of people. Increased expenditure on medical services is unlikely to be available to any great extent in future and it is for us to see that the Territory gets the best value possible for the expenditure it can afford.

The more senior members of the medical staff must therefore concentrate their efforts more than ever before on improving the standard of work of their assistants whether Asian or African : and themselves get round their areas as much as possible and co-ordinate the work of government, native authority and missionary medical organizations.

It is recognized that the large non-native population of the Territory demands treatment, and this we must continue for the present to furnish to some extent, especially treatment which is outside the range of the general practitioner; and for this purpose it will be necessary to provide increasingly for specialist services. We already have specialist appointments in Medicine, Trypanosomiasis, Malaria and Tuberculosis. It is expected shortly to add a surgical appointment; and we shall need before much longer an ophthalmologist, a psychologist and a radiologist; but at the moment our particular need is for a tutorial medical officer, to co-ordinate and assist in the training and examination of the African personnel.

Expansion of the laboratory service to provide small branch laboratories, in the first instance at Mwanza, will also be necessary.

With the improvement of the financial condition of the Territory it is hoped that employers of labour, whether in agriculture, mining, or other undertakings will help us to show, by taking full advantage of the advisory services offered by the department, that healthy labour pays. By so doing they will contribute an increasing share towards the improvement of the material welfare of the country, quite apart from the inevitable improvement which will result in their own profits.

On the purely administrative side of the department it is desired to pay a greater degree of attention to the costing of our various activities; and this field offers an excellent opportunity for proving the economic value of an efficient health service which it is our aim to provide.

# I.—ADMINISTRATION.

## (A) General.

### 1.—*Staff.*

(a) Tables showing the authorized establishment of the department and details of appointments and casualties are given at pages 44 and 45.

(b) *Courses of Instruction attended in Europe and Academic Distinctions awarded.*—During their leave in Europe seven medical officers attended the course of instruction at the Central Medical Establishment, Royal Air Force, for training in the medical examination of candidates for flying certificates. This course lasts a fortnight and is very highly spoken of by those who have taken it, and is most necessary for medical officers likely to be required to examine pilots. It is being arranged that all medical officers doing clinical work shall take this course in accordance with the wishes of the Secretary of State.

Dr. H. G. Calwell attended the Pathological Institute of the Queen's University of Belfast for six months, during which he worked on the pathology of trypanosomiasis. He was awarded the degree of M.D. of Queen's University with commendation for his thesis on the "Pathology of Rhodesian Trypanosomiasis in the Human Brain."

Dr. R. Mackay was awarded the degree of M.D. of Aberdeen University with commendation for his thesis "An Account of an Investigation into Malaria at Dar es Salaam."

Dr. H. Fairbairn received the degree of M.D. of Glasgow University with high commendation for a thesis on (a) "The action of human serum on *T. rhodesiense* in vitro," (b) "Lange's Colloidal Gold Reaction and the estimation of total proteins in the cerebro-spinal fluid of Rhodesian Sleeping Sickness, and their significance in prognosis."

Dr. B. A. Coghlan received the degree of M.D. of the National University of Ireland for a thesis entitled "Notes on one hundred and ten cases of Rhodesian Sleeping Sickness with special reference to prognosis and treatment."

Dr. C. Wilcocks received a Carnegie Fellowship under which he was enabled to study tuberculosis in England and on the Continent for a period of about one year and two months. His work was carried on at Cambridge, Cardiff, Paris, Berlin and Vienna and provided him with the opportunity of meeting eminent workers on the subject and of comparing his findings with theirs, particularly in relation to the non-pathogenic acid-fast bacilli the frequent presence of which in this country adds so much to the difficulty of diagnosis.

Mr. A. L. George, Sanitary Superintendent, obtained the Tropical Hygiene Certificate of the Royal Sanitary Institute.

(c) *Honours.*—The following honour was graciously bestowed by His Majesty the King on a member of the department :—

O.B.E. Dr. G. Maclean, M.B.E., Sleeping Sickness Officer.

The insignia of the Order of Al Rafidain, Civil Division, Class V, were conferred upon Mr. W. D. Raymond, Analytical Chemist, by His Majesty the King of Iraq for his valuable services from 1924 to 1933 with the Government of Iraq.

## 2.—*The Medical Services of the Territory.*

The population of the Territory as recorded in the Census, 1931, numbered 5,022,640, spread over an area of 366,632 square miles, and having an average density of 13·7 per square mile. There are, however, many square miles which are uninhabited. Of the provinces the Western has the lowest density—6 per square mile; and the Lake the highest—32·6 per square mile.

There are twenty-nine executive medical and health posts, providing one government medical officer to 173,194 persons.

£198,000 were provided for ordinary recurrent expenditure on medical services, equivalent to 79 cents of a shilling (about 9½d.) per head. Of this sum about 54 per cent. is spent on curative services and about 37 per cent. on preventive work. In addition a large amount of simple treatment is undertaken by the native authorities through their own dressers; and much good work is done by the missions, on whose staffs there are some fifteen registered medical practitioners who are almost wholly employed on native work.

There are forty-nine government general hospitals, containing some 2,023 beds, in addition to dispensaries not providing accommodation for in-patients. Each bed thus serves an average of some 2,500 persons; these figures vary from the densely populated Lake Province where there are 3,841 persons per bed to the relatively well served Eastern Province where there are only 1,323 persons.

## 3.—*Assistance to Missions for Medical Work.*

A certain amount of drugs and equipment to the value of £243 was supplied to missionary societies for specific diseases affecting the public health, such as hookworm, leprosy, sleeping sickness, yaws and syphilis. Additional financial assistance was given to certain missions actively engaged in maternity and child welfare work. A sum of £992 was contributed for this purpose.

## 4.—*Native Staff and Tribal Dispensaries.*

Concentrated attention was given to the improvement of the technical training of the various grades of African medical personnel.

For some years past revision courses have been held for the African dispensers, whose duties include minor medical and surgical treatment in addition to dispensing, and these were continued as usual. Government has undertaken to publish teaching material in the form of small text-books on the various subjects in the syllabus which include elementary chemistry and physics, anatomy and physiology, medicine and surgery, hygiene, laboratory methods and pharmacy, and the preparation and printing of some of these is already in hand.

Arrangements have also been concluded with the Education Department whereby future candidates for this class of training shall have completed a year's secondary education, including chemistry and physics and elementary biology, before entering the class, since it has been found that the so-called "dispenser learners" commenced their hospital training with an insufficient grounding in English and elementary science to appreciate fully the training given.

It must be clearly understood that no question of aiming at the high standard of medical assistants trained at Mulago, in Uganda, arises. Our course for medical assistants is of a much less advanced type; and it is intended to provide scholarships to enable boys of exceptional ability who desire to follow

medical work to enter Mulago. One such student has already gone to Uganda.

What is required in this country at the present time is a large number of adequately trained natives capable of diagnosing and treating the ordinary minor medical and surgical conditions met with in hospital practice and of recognizing serious cases which require to be sent to the larger hospitals for treatment: such men may also be required to supervise the tribal dressers who work under the native authority; and it is our present aim to improve the knowledge of the men we have already got and to provide a more thorough and systematic course of training for new entrants.

No classes were held for sanitary inspectors during the year.

Further attention was given to improving the efficiency of the tribal dressers who form the lowest grade of independent medical unit. These men, though literate, do not speak English and their duties are to treat minor ailments, administer medical and surgical first aid in the larger village communities and to recognize cases of illness which are beyond their power to treat, and to endeavour to secure that these attend a dispensary or hospital.

The experiment referred to in page 7 of the 1933 Report of combining curative and preventive work under the same individual in the Lake Province has been initiated but its success cannot yet be estimated.

### 5.—*Medical Registration Board.*

With the increased number of applications for medical and dental registration it has been necessary to regularize the procedure of the board; and its personnel has been enlarged so as to consist of a chairman and three members.

The difficulty in the assessing of the suitability of foreign qualifications is very real; and it is essential for the protection of the public that only qualifications of a suitably high standard should be registered. Candidates for registration whose names do not appear in the Medical Register are therefore required to furnish full particulars of their course of training and examination, certified by the Dean of their medical school; and also to produce evidence of current registration in the country in which their qualification has been obtained, together with evidence of identity.

For the first time since the board was constituted in 1920 the list of persons registered and licensed as medical practitioners and dentists was issued in the form of a booklet: and this contains a formal warning notice relating to the professional conduct of registered and licensed persons and other information regarding the practice of medicine in the Territory, together with a summary of the medical and dental practitioners registered and licensed.

One hundred and fifty-one persons were registered as medical practitioners at the end of the year. Of these fifty-one are not at present resident in the Territory; of the 100 remaining fifty-one are government practitioners of British or British-Indian nationality, all of whom are registrable in the British Medical Register. There are thirty-five resident non-government practitioners, fourteen of whom are registered by virtue of qualifications not registrable in Great Britain. Two medical practitioners were registered during the year.

Ten persons are registered as dentists, three of whom are medical practitioners or hold medical qualifications. Three are not resident in the Territory. Two whole-time dentists are in the service of the Government.

In addition to the registered medical practitioners there are fifty-eight persons licensed to practise medicine in the Territory; the licences require

renewal each year. Of these fifty-three are in government service and five are privately employed.

### 6.—*Aerial Transport.*

Increasing use has been made of the existing facilities for air travel in cases where time is an important factor. Acknowledgment is due to the officials of Messrs. Wilson Airways, Limited, who have at all times assisted us in every possible way, and have earned the gratitude of both staff and public for the efficiency of the services rendered.

During 1934 the following aeroplane journeys were made on medical grounds :—

| | |
|---|---|
| By medical practitioners in emergency illness ... | 4 |
| By medical practitioners for other reasons ... | 3 |
| By patients in emergency illness ... ... ... | 2 |
| For other cognate purposes ... ... ... ... | 2 |

### 7.—*Publications.*

A list of contributions by members of the staff to scientific literature is given at page 43. The following medical pamphlets were issued during the year :—

Memorandum on Sleeping Sickness Measures, by Dr. G. Maclean, O.B.E. (6 pp.).

Malaria. Notes on its cause, prevention and cure for the information of the public (Medical Pamphlet No. 10, 8 pp.).

A pamphlet in Kihaya on surgical assistance in midwifery for use in Bukoba District (Medical Pamphlet No. 11, 1 p.).

## (B) Legislation.

The following legislation affecting public health was promulgated during the year :—

*The Medical Practitioners and Dentists Ordinance.*—Amendments were made requiring the Registrar to keep the register correct and to erase the names of all registered persons who have died or left the Territory with no intention of returning to practise therein and to make other necessary alterations ; and to address the usual notice regarding changes of address in accordance with the practice of the General Medical Council. (Ordinance No. 7 of 1934.)

*The Air Navigation (Colonies, Protectorates and Mandated Territories) Order, 1927.*—The Air Navigation (No. 2) Directions, 1931, were amended so as to exempt aircraft from the scheduled yellow fever countries which has complied with the formalities under the International Sanitary Convention in an unscheduled country before landing in the Territory from further formalities. (Government Notice No. 1. The Air Navigation (Amendment) Directions.)

*The Township Ordinance.*—(a) The Township Rule relating to the sale of milk was amended so as to require licensed vendors and their employees to carry their certificates of licence on their persons while engaged in selling milk. The native distributors are supplied with numbered metal discs for this purpose, enabling the licensed seller to be traced and simplifying the sampling procedure. (Government Notice No. 52. The Township (Amendment) (No. 2) Rules, 1934.)

(b) The Township Rules relating to water supply were amended to simplify the procedure for the closure of wells or other supplies polluted or subject to pollution ; and requiring persons trading in food and drink ready for consumption to make use of the public water supply where such exists, and to remove if required to do so existing sources and means of supply. These rules enable

more satisfactory standards to be maintained in eating houses, dairies, bakeries, ice-cream shops, temperance bars and such places. (Government Notice No. 61. The Township (Amendment) (No. 3) Rules.)

*The Customs Ordinance.*—The importation of condensed milk containing less than 9 per cent. of milk fat was prohibited. (Government Notice No. 63. The Customs (Restricted Importation of Condensed Milk) Order.)

*The Markets Ordinance.*—A bye-law in force in Dar es Salaam was amended to prohibit the sale except in the Shark Market of shark or other fish which in the opinion of the Medical Officer of Health is offensive to the sense of smell. (Government Notice No. 131. The Markets (Dar es Salaam) (Amendment) (No. 2) Bye-laws.)

### (C) Financial.—*Expenditure.*

The estimates of expenditure for the year 1934 provided the sum of £198,004 for the public health services, a net reduction of £12,655 as compared with the provision for 1933. The reduction was effected by keeping senior and other posts unfilled, by heavy cuts in the allocations made for the purchase of medical and surgical stores, and by smaller cuts under other sub-heads.

### *Medical Stores and Equipment.*

During the past few years of financial difficulty it has been necessary to review our expenditure on drugs and equipment, which forms so heavy a charge against the depleted funds available for the department. Fortunately for us, falls in price in the European markets have helped to reduce our expenditure on essential medical stores : but the reduction in the consumption of what may be described as "luxury" medicines has contributed largely to the lower expenditure on these stores. This has been effected through the loyal co-operation of the staff, who have paid increasing attention to the details of indents and curtailed their requests for all but essential supplies, while closer scrutiny of indents at headquarters has played its part. Certain expensive preparations and flavouring agents and drugs of doubtful pharmacological action are no longer issued ; while the standardization of nomenclature of certain articles has enabled the Crown Agents to purchase in bulk more favourably than before.

But it is the realization of the cost of these stores by the medical staff which is the most important thing to obtain : and the opportunity has been freely taken of impressing the need for the elimination of waste in hospitals on the members of the department.

It is intended to institute a simple system of costing of hospital stores in future, and the preliminary steps have already been taken to this end.

It will be seen that the authorized expenditure on medical and surgical stores in 1935 is just over half the actual expenditure in 1928-29.

The reduction in the expenditure on clothing for patients and staff is particularly marked and our thanks are due to the Commissioner of Prisons who has arranged for much of the latter to be made in the Dar es Salaam Prison. This reduction can be seen in the table below ; but it must not be forgotten that the prolonged period of "making do" means a heavier bill for replacements of worn-out equipment in the next few years : while the work of treating the sick has continued to expand without regard to decreased funds.

## Expenditure on Medical Supplies.

| | Authorized Expenditure | | | Actual Expenditure | | | Value of Actual Issues | | |
|---|---|---|---|---|---|---|---|---|---|
| | Medical and Surgical Stores | Equipment and Furniture | Uniforms | Medical and Surgical Stores | Equipment and Furniture | Uniforms | Medical and Surgical Stores | Equipment and Furniture | Clothing |
| | £ | £ | £ | £ | £ | £ | £ | £ | £ |
| 1928–29 ... ... | 16,500 | 7,000 | 730 | 18,572 | 7,128 | 943 | — | — | — |
| 1929–30 ... ... | 17,000 | 7,000 | 800 | 18,434 | 5,621 | 897 | — | — | — |
| 1930–31 ... ... | 19,000 | 8,000 | 1,180 | 18,032 | 8,462 | 959 | — | — | — |
| 1931–32 ... ... | 19,000 | 8,000 | 1,180 | 13,130 | 3,149 | 727 | — | — | — |
| 1932 (9 months) ... | 12,375 | 3,750 | 675 | 11,301 | 3,364 | 449 | — | — | — |
| 1933 ... ... ... | 15,000 | 4,000 | 725 | 9,532 | 2,914 | 401 | 8,677 | 5,882 | 439 |
| 1934 ... ... ... | 11,000 | 4,000 | 625 | 11,408 | 3,917 | 152 | 10,217 | 4,169 | 129 |
| 1935 ... ... ... | 9,500 | 4,000 | 400 | — | — | — | — | — | — |

FINANCIAL SUMMARY.

(For details see table at page 46.)

*Revenue.*

| | Estimated £ | Actual £ |
|---|---|---|
| Receipts, Medical ... ... ... ... | 8,500 | 10,645 |
| Reimbursements by Railways ... ... | 3,198 | 3,198 |
| Total ... | £11,698 | £13,843 |

*Expenditure.*

| | Approved Estimate £ | Revised Estimate £ | Actual £ |
|---|---|---|---|
| Ordinary recurrent ... | 198,004 | 190,000 | 187,777 |

| Colonial Development Fund: | Estimated £ | Actual £ |
|---|---|---|
| Malarial Research Scheme ... ... | 10,000 | 6,737 |
| Tuberculosis Investigation ... ... | 3,033 | 916 |
| Sleeping Sickness Research ... | 1,750 | 1,693 |
| Total ... | £14,783 | £9,346 |

## II.—THE STATE OF THE PUBLIC HEALTH.

### 1. Attendance at Hospitals.

The continued growth of the curative work of the department as measured by attendance at hospitals, clinics and dispensaries is gratifying, the more so in that it is maintained in spite of heavily reduced expenditure. During the ten-year period, 1925 to 1934, there has been a steadily maintained increase of in-patients amounting to 24·7 per cent., and of out-patients amounting to 114 per cent. As compared with 1933 the new in-patients increased by 3,652 (11·9 per cent.) and the out-patients by 32,248 (6·2 per cent.). The figures for new patients attending at the general hospitals during the last five years are given below. These do not include patients treated at maternity clinics, infectious diseases hospitals, sleeping sickness treatment centres, or dispensaries in charge of Africans :—

| Year | In-patients | Out-patients | Total |
|---|---|---|---|
| 1930 ... ... | 33,052 | 393,783 | 426,835 |
| 1931 ... ... | 31,743 | 423,169 | 454,912 |
| 1932 ... ... | 29,250 | 479,517 | 508,767 |
| 1933 ... ... | 30,680 | 514,197 | 544,877 |
| 1934 ... ... | 34,332 | 546,445 | 580,777 |

An additional 69,266 cases were seen by members of the medical staff on tour. 144,935 patients were treated at dispensaries staffed by African dispensers; and 31,554 by missionaries supplied with government drugs and equipment.

### 2. Attendances at Tribal Dispensaries.

The cases treated during the year numbered 451,520, an increase of 49,509 over 1933. The figures for the last five years are as follows :—

| | |
|---|---|
| 1930 ... ... ... | 352,423 |
| 1931 ... ... ... | 369,735 |
| 1932 ... ... ... | 374,614 |
| 1933 ... ... ... | 402,011 |
| 1934 ... ... ... | 451,520 |

Four new tribal dispensaries were opened in the Northern, Lake and Eastern Provinces during 1934; there are now 310 such dispensaries in the Territory.

### 3. Maternity and Child Welfare.

Maternity and child welfare work is carried on by government and missionary societies. Those societies receiving financial assistance supplied us in return with information as to the number of patients treated at their clinics.

One of the principal aims of the clinics is to accustom the native women to Western medicine and also to provide material for the practical training of native midwives. Owing to the scarcity of literate native women it is very difficult to obtain pupils who can be taught more than the conduct of a normal labour in a cleanly manner. It is hoped that as time goes on and female education spreads, we shall be able to obtain a greater number of literate women for training in this work.

A very successful baby week combined with a health week was held at Tanga in February. An account of the proceedings was submitted to the National Baby Week Council in connection with the Imperial Baby Week Challenge Shield Competition and a certificate of merit was awarded. The co-operation of the unofficial communities in the organization of this intensive effort in health propaganda proved most valuable.

One of the Church Missionary Society's clinics—at Kongwa in the Central Province—also received a certificate of merit in this competition.

In view of the fact that only ten such certificates were awarded to entrants throughout the Empire, those concerned with the organization of these two baby shows are the more to be congratulated.

*Cases treated at Maternity Clinics.*

| | 1930 | 1931 | 1932 | 1933 | 1934 |
|---|---|---|---|---|---|
| Total number of confinements admitted to clinics ... | 2,399 | 2,710 | 2,344 | 2,673 | 3,809 |
| Total number of confinements attended to elsewhere ... | 49 | 499 | 190 | 66 | 33 |
| Total number of new cases (in- and out-patients) seen at clinics: | | | | | |
| Mothers ... | 24,569 | 30,558 | 35,283 | 25,485 | 28,554 |
| Children ... | 31,553 | 45,418 | 46,806 | 42,932 | 41,163 |
| Total number of attendances at clinics: | | | | | |
| Mothers ... | 164,833 | 251,704 | 273,763 | 292,916 | 269,254 |
| Children ... | 219,133 | 352,155 | 454,401 | 485,798 | 395,648 |

### 4. Return of Patients Treated in Mental Hospitals.

| *Numbers:*— | DODOMA: | | | LUTINDI: | | |
|---|---|---|---|---|---|---|
| | Males | Females | Total | Males | Females | Tota |
| In hospital, 1st January, 1934 ... | 57 | 34 | 91 | 65 | 35 | 100 |
| Admitted during year ... ... | 34 | 6 | 40 | 21 | 7 | 28 |
| Discharged during year (by Board of Visitors) ... ... ... | 14 | 2 | 16 | 3 | 2 | 5 |
| Escaped ... ... ... ... | — | — | — | 1 | — | 1 |
| Died during year ... ... ... | 23 | 7 | 30 | 12 | 4 | 16 |
| In hospital, 31st December, 1934... | 54 | 31 | 85 | 70 | 36 | 106 |

| *Classification of Admissions:—* | DODOMA: | LUTINDI: |
|---|---|---|
| Delusional Insanity | 6 | 5 |
| Mania | 14 | 8 |
| Dementia and Senility | 8 | — |
| Dementia | — | 3 |
| Imbecility | 5 | 4 |
| Paralysis | — | 3 |
| Confusional Insanity | 7 | — |
| Epilepsy with Imbecility | — | 2 |
| Epilepsy with Insanity | — | 1 |
| Epilepsy with Mania | — | 1 |
| Depressive Insanity with Delusions | — | 1 |
| *Deaths:—* | | |
| Deaths were due to the following causes superimposed on the condition for which the patient was admitted to the hospital. | | |
| Diarrhœa | 6 | 2 |
| Paralysis | — | 3 |
| Pulmonary Tuberculosis | — | 3 |
| Sleeping Sickness | 1 | — |
| Senility | 7 | 1 |
| Heart failure | 9 | — |
| Epilepsy | 4 | — |
| Imbecility | 1 | — |
| Pneumonia | 1 | 1 |
| Apoplexy | 1 | 2 |
| Enteritis | — | 2 |
| Burns | — | 1 |
| Debility | — | 1 |
| *Inspections:—* | | |
| The Board of Visitors | 13 visits | — |
| The Senior Medical Officer | 35 ,, | 1 visit |
| Other Government officials | 2 ,, | 5 visits |
| Dr. Muller of Bumbuli Mission | — | 9 ,, |

## 5. Dental Treatment.

The following work for officials, their wives and families was performed by the Senior Dental Surgeon, Dar es Salaam, and the Dental Surgeon, Tanga, during the year :—

| | Dar es Salaam | Tanga |
|---|---|---|
| Attendances | 1,301 | 1,840 |
| Fillings | 659 | 389 |
| Extractions | 388 | 293 |
| Root treatment | 56 | 31 |
| Gum treatment | 140 | 244 |
| Radiograms | 120 | — |
| Dentures made | 49 | 38 |
| Repairs to dentures | 37 | 73 |

A number of the African population and some of the native school children also received treatment.

## 6. General Diseases.

*Neoplasms.*—One hundred and forty-seven cases of malignant tumour were diagnosed of which seventy-three were of the alimentary tract and peritoneum. In addition 221 non-malignant tumours and fifty-four tumours of undetermined nature were met with.

*Diseases of Nutrition.*—The hospital figures give no indication of the amount of malnutrition throughout the Territory. There is reason to believe that minor degrees of it are widespread.

One hundred and eighteen cases of a disorder resembling rickets have been met with in hospitals. Apart from this the main deficiency diseases have been scurvy, of which eighty-six cases were diagnosed, and beri-beri of which twenty-eight were diagnosed. Fifty of the scurvy cases occurred in the Lupa mining area.

*Diseases of the Respiratory System.*—This group comprises 68,234 cases, or over 11 per cent. of the total diseases treated at government hospitals. Of these 1,699 were pneumonia (including broncho-pneumonia).

*Diseases of the Skin and Cellular Tissue.*—This group comprises 83,404 cases, or over 14 per cent. of the total cases treated at government hospitals. Ulcers alone accounted for 47,930 of this number.

For other general diseases see tables, pages 52 and 66.

## 7. Infectious Diseases.

With the exception of smallpox, which occurred in epidemic form in three areas, and influenza, of which there was one major but localized epidemic, no serious outbreak of dangerous infectious diseases was reported during the year. The following table shows the incidence of dangerous infectious diseases since 1930 :—

| YEAR | Smallpox | | Cerebro-spinal Meningitis | | Plague | | Influenza | |
|---|---|---|---|---|---|---|---|---|
| | Cases | Deaths | Cases | Deaths | Cases | Deaths | Cases | Deaths |
| 1930 ... ... | 4,335 | 734 | 6 | 3 | 15 | 15 | 56 | — |
| 1931 ... ... | 1,733 | 148 | 4 | 2 | 238 | 172 | 1,568 | 22 |
| 1932 ... ... | 768 | 48 | 7 | 1 | 12 | 10 | 123 | 30 |
| 1933 ... ... | 626 | 38 | — | — | 9 | 5 | — | — |
| 1934 ... ... | 411 | 37 | 55 | 13 | — | — | 2,600 | 491 |

### *(1).—Blood Inoculation Group.*

#### MALARIA.

Twenty-nine thousand two hundred and forty-three cases of all types were treated during the year ; fifty-two deaths occurred.

#### BLACKWATER FEVER.

Fifty-nine cases with fifteen deaths were reported. Reference to the investigation being carried on under the Colonial Development Fund is made at page 41.

#### AFRICAN RELAPSING FEVER (TICK-BORNE).

One thousand three hundred and twenty cases with five deaths were reported. Reference to the incidence of this disease in the Lake Province is made in the Medical Officer of Health's report at page 39.

#### PLAGUE.

No case of plague was recorded in the Territory during the year.

The total cases diagnosed during the year numbered 1,475 as compared with 2,304 in 1933. The figures for the past five years are shown below :—

| Province | New cases Diagnosed During the year | | | | | Deaths | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 1930 | 1931 | 1932 | 1933 | 1934 | 1930 | 1931 | 1932 | 1933 | 1934 |
| Lake ... ... | 228 | 138 | 602 | 623 | 381 | 65 | 64 | 89 | 122 | 102 |
| Western ... | 1,513 | 1,304 | 2,251 | 1,621 | 1,078 | 442 | 477 | 385 | 347 | 282 |
| Central ... ... | — | — | — | 54 | 12 | — | — | — | 6 | 9 |
| Eastern... ... | 1 | — | — | — | 1 | — | — | — | — | — |
| Lindi ... ... | 5 | — | 5 | 6 | 3 | 3 | 3 | 3 | 3 | 4 |
| Northern ... | 3 | — | — | — | — | — | — | — | — | — |
| Total ... | 1,750 | 1,442 | 2,858 | 2,304 | 1,475 | 510 | 544 | 477 | 478 | 397 |

In the epidemic areas of Kibondo and Kasulo in the western part of the Territory the number of new cases fell from 852 in 1933 to 535 in 1934. This fall is coincident with the resettlement that was undertaken in 1933 when approximately 7,530 families were brought into concentrations from infected tsetse bush and in 1934 when some 1,000 families of Waha moved in. Nearly all the bush villages left over from last year have now been concentrated.

In Biharamulo approximately 900 families were placed in close settlements during the year.

During the year a survey was made of the western part of Bukoba, the last tsetse bush to remain free from sleeping sickness in the north-western part of the country.

*The Eastern Province.*—One European contracted sleeping sickness of the Rhodesian type in Utete, 110 miles south of Dar es Salaam, in August. She had not been out of the district for several months and there is no doubt the disease was contracted in the vicinity of the Rufiji river. Just south of Utete station both *G. morsitans* and *G. pallidipes* are to be found, but along the river bank the commonest species hitherto met with is *G. brevipalpis*. A northern extension of the disease from Utete would threaten Dar es Salaam district and to a lesser degree the outskirts of Dar es Salaam town.

The control of tsetse in Dar es Salaam district presents a problem somewhat different from that met with in the savannah country further inland, and it requires special study. In this district there is much coastal savannah with thickets in certain unoccupied parts ; while in others, particularly on some hill faces, there is dense vegetation approaching rain forest conditions. The former favour *G. pallidipes* and some of the latter *G. brevipalpis*.

Parts that have been cultivated frequently acquire a dense matted growth of grass which sooner or later is replaced by dense thicket. Most of these thickets which are often patchy provide a suitable habitat for *G. brevipalpis*, while others appear to favour *G. pallidipes*. The control of these two species of tsetse in a district like Dar es Salaam is exceedingly difficult.

*G. pallidipes* has been found in thickets within the boundaries of Dar es Salaam township and probably the most effective measure that can be taken at this stage is to cut down the thickets in and around the town and cultivate the cleared patches.

Taking the food requirements of the present population into consideration it should be possible, if it is found that three-quarters of the land is suitable

for some form of cultivation, to maintain a fly-free semi-circle with a radius of about fifteen miles round the town.

So far as the rural part of the district is concerned it is doubtful if with the methods of agriculture at present followed, settlements sufficiently close to prevent the growth of *brevipalpis* thicket can be maintained.

In the adjoining district of Morogoro careful watch is being kept for cases of the disease, and native staff is being trained with a view to the early detection of cases.

*Recruiting of labour.*—In connection with the recruiting of labour from the country bordering on the sleeping sickness areas in the Western Province, a quarantine camp has been established at Kigoma where native labourers will be detained for a period of from fourteen days to one month before proceeding to their destination, for the purpose of detecting the presence of trypanosomes in their blood.

*Research.*—Research work at the Tinde Laboratory was continued throughout the year and the results have been published in various scientific journals. (See page 43.) One of the experiments carried out demonstrated the infectiveness to man of a strain of *T. rhodesiense* taken from man and transmitted through animals (mostly dik-dik) and tsetse for a period of one year.

### *(2).—Intestinal and Excremental Group.*

#### THE ENTERIC GROUP.

Eighty-three cases were treated, and thirteen deaths were recorded.

#### DYSENTERY.

One thousand five hundred and forty-eight cases were treated, of which 763 were amœbic and 139 bacillary. The total deaths were thirty-one, twenty being amœbic and seven bacillary.

#### HELMINTH DISEASES.

The incidence of these diseases is exceedingly high, accounting for 19 per cent. of all diseases and 34 per cent. of all deaths at government institutions. Special reference is made to the prevalence of hookworm and bilharzia infection in the reports of the Medical Officers of Health for the Northern and Lake Provinces (pages 36 and 39). Tapeworm and roundworm are especially prevalent in the Northern Province. The Director of Veterinary Services reports (1933) that *Cysticercus bovis* incidence is particularly high in Mbulu, Iringa and Bukoba where conditions of moisture and shelter are more suitable to egg development, while the small herds of cattle in these areas find all the grazing they want in the vicinity of the villages, i.e. in the very areas used by the natives for defæcation, thus encouraging the continued incidence of the infestation in man.

These findings correspond as may be expected with the cases of tapeworm reported. Ninety-two per cent. of the tæniasis reported among out-patients attending government hospitals occurred in the Northern (7,988 cases), Iringa (2,237), Lake (1,489) and Central (1,172) Provinces. About one-third of the out-patients were females.

The heaviest incidence of ascaris occurred as follows :—

| | | | |
|---|---|---|---|
| Arusha | (Northern Province) ... ... | 1,331 | cases |
| Moshi | ( ,, ,, ) ... ... | 1,211 | ,, |
| Mwaya | (Iringa ,, ) ... ... | 1,172 | ,, |
| Usangi | (Northern ,, ) ... ... | 1,143 | ,, |
| Tukuyu | (Iringa ,, ) ... ... | 686 | ,, |

Thirteen thousand and ninety-nine cases of ankylostomiasis with 155 deaths were reported from government institutions. Schistosomiasis similarly accounted for 3,971 cases with fifteen deaths.

*(3).—Surface Inoculation, Contact and Droplet Infection Group.*

VENEREAL DISEASES AND YAWS.

Treatment has been continued on the same lines as in former years.

*Syphilis.*—Twenty-four thousand eight hundred and ninety-one cases of all types were treated at government institutions, and twenty-three deaths were recorded.

*Gonorrhœa.*—Ten thousand one hundred and forty-eight cases with eight deaths were reported.

*Yaws.*—Eighty-one thousand nine hundred and eight cases were treated in government institutions during the year. Eight deaths were recorded. The total cases of syphilis and yaws treated at government institutions and at missions to which assistance is given by Government in the form of drugs are shown below :—

| | Syphilis | Yaws |
|---|---|---|
| 1930 ... ... ... | 25,864 ... | 137,112 |
| 1931 ... ... ... | 29,662 ... | 112,128 |
| 1932 ... ... ... | 35,229 ... | 114,115 |
| 1933 ... ... ... | 33,058 ... | 109,113 |
| 1934 ... ... ... | 33,701 ... | 117,884 |

LEPROSY.

Anti-leprosy work has been continued in Tanganyika throughout the year, although the money available has necessarily been restricted by the financial depression. Government continues to control directly settlements at Dar es Salaam, Moshi and Mkalama and treatment centres at the medical stations, together with a number of small old-established non-treatment settlements scattered throughout the Territory. Assistance is also given to mission-controlled settlements in the form of grants towards maintenance and of drugs and material. The sum of £3,200 was allocated by Government for the maintenance of patients ; most settlements have also land suitable for cultivation.

The number of cases segregated in the Territory is 3,408. Facilities for bacteriological examination are limited, and classification of cases is not generally possible.

SMALLPOX.

Smallpox occurred in all districts of the Iringa Province but was not of a virulent type, only ten deaths being recorded amongst 314 cases. A similar small outbreak occurred at Igalula near Tabora, twenty-six cases being reported with two deaths. The Tanga epidemic, which is discussed in greater detail in the Medical Officer of Health's report, was of a more virulent type, twenty-five deaths occurring amongst sixty-eight cases (see page 33).

TUBERCULOSIS.

The tuberculosis unit on Kilimanjaro continued its work with the same staff as in 1933. A total of 1,353 cases of tuberculosis were dealt with and the use of collapse therapy was extended with excellent results. The unit dealt with 34,376 patients suffering from diseases other than tuberculosis during the year. The Kilimanjaro Native Council contributed £250 during the year with which two new wards of mud, brick and corrugated iron were erected in order to replace two of the old mud and wattle type.

The Tuberculosis Research Officer completed an extensive course of study in England, Paris and Vienna, which he was enabled to attend through the generosity of the trustees of the Carnegie Corporation. This course was related particularly to the bacteriology of the disease and the pathogenicity of the acid-fast bacilli found in East African natives. He returned to the Territory in August and pursued this line of work for the remainder of the year. His programme of work for 1935, made possible by a further grant from the Colonial Development Fund, includes visits to other parts of the Territory with a view to estimating the incidence of the disease under other climatic conditions than those prevailing on Kilimanjaro.

Two thousand four hundred and forty-nine new cases of tuberculosis were notified during the year. For their distribution see page 22.

### INFLUENZA.

Influenza occurred on a major scale in Dodoma district but remained localized; 481 deaths were reported. It was not possible to form an accurate estimate of the number of cases affected but it lay probably between two and three thousand.*

A small epidemic was reported in Mbeya district, ten deaths occurring amongst approximately one hundred cases.

### CEREBRO-SPINAL MENINGITIS.

An outbreak of cerebro-spinal meningitis occurred in the Bukoba district during August and September with fifty-four cases and thirteen deaths.

---

* Later investigation has shown that cases of virulent anthrax probably contributed to the severity of this outbreak.

## Table showing Incidence of Tuberculosis at the various Stations in the Territory during 1932, 1933 and 1934.

| Stations | 1932 | | | | 1933 | | | | 1934 | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Pulmonary | | All other forms | | Pulmonary | | All other forms | | Pulmonary | | All other forms | |
| | Cases | Deaths | Cases | Deaths | Cases | Deaths | Cases | Deaths | Cases | Deaths | Cases | Deaths |
| Arusha ... ... | 13 | 3 | 5 | — | 33 | 4 | 9 | — | 36 | 6 | 6 | — |
| Bagamoyo ... ... | 4 | — | — | — | 13 | — | — | — | 6 | — | — | — |
| ,, District work | 2 | — | — | — | — | — | — | — | — | — | — | — |
| Biharamulo ... ... | — | — | — | — | 4 | 2 | 1 | — | 37 | 1 | 3 | — |
| Bukoba ... ... | 22 | 1 | 3 | — | 36 | 3 | 2 | — | 43 | 12 | 12 | 1 |
| Dar es Salaam: | | | | | | | | | | | | |
| European Hospital | 5 | 1 | 2 | 1 | 3 | — | — | — | 3 | — | — | — |
| Sewa Hadji Hospital | 38 | — | 10 | 3 | 53 | 1 | 7 | 2 | 55 | 1 | 6 | 1 |
| Health Office* ... | 10 | — | — | — | 58 | 24 | — | — | 57 | — | — | — |
| Private Practitioners*... | 7 | — | — | — | 5 | — | — | — | 9 | — | — | — |
| Dodoma ... ... | 8 | — | 1 | — | 5 | — | 2 | — | 12 | 3 | 2 | — |
| Handeni ... ... | 4 | — | — | — | — | — | — | — | — | — | — | — |
| Iringa ... ... | 9 | 3 | 3 | — | 7 | 2 | 5 | — | 7 | 1 | 1 | — |
| Kahama ... ... | 11 | — | — | — | 12 | 1 | 1 | — | 10 | — | 7 | — |
| Kasulo ... ... | 1 | — | — | — | — | — | — | — | 2 | 1 | 2 | 2 |
| Kibondo ... ... | 1 | — | — | — | — | — | — | — | 12 | 3 | — | — |
| Kigoma ... ... | 11 | 4 | — | — | 5 | 1 | 1 | 1 | 4 | 2 | 5 | 3 |
| Kilosa ... ... | 3 | 1 | 1 | — | 5 | 2 | 1 | — | 12 | 2 | — | — |
| Kilwa ... ... | 24 | — | — | — | 5 | — | 7 | — | 2 | — | — | — |
| Kondoa ... ... | 3 | — | — | — | 2 | — | 1 | — | 6 | — | — | — |
| Korogwe ... ... | 81 | — | 10 | — | 9 | — | 1 | — | 7 | — | — | — |
| Lindi ... ... | 11 | 2 | — | — | 20 | 1 | 1 | — | 15 | 1 | 4 | 1 |
| Liwale ... ... | 1 | 1 | — | — | — | — | — | — | — | — | — | — |
| Lushoto ... ... | 16 | 2 | 6 | — | 23 | 3 | 12 | — | 11 | 3 | 10 | 1 |
| Mafia ... ... | 4 | 1 | — | — | — | — | — | — | 8 | — | 1 | — |
| Mahenge ... ... | 3 | — | 1 | — | 5 | — | — | — | 12 | — | — | — |
| Malangali ... ... | — | — | — | — | 7 | — | 1 | — | 5 | — | 1 | — |
| Manyoni ... ... | 2 | 1 | — | — | — | — | — | — | 7 | — | — | — |
| Maswa ... ... | — | — | — | — | 1 | — | — | — | 8 | 2 | — | — |
| Mbeya ... ... | 1 | — | 1 | — | 11 | — | 10 | — | 4 | 1 | 3 | — |
| Mbulu ... ... | 7 | 2 | 2 | — | 12 | 1 | 20 | — | — | — | 27 | — |
| Mikindani ... ... | 3 | — | 2 | — | 12 | — | — | — | 19 | — | — | — |
| Mkalama ... ... | 1 | — | — | — | 7 | 1 | 1 | — | 3 | — | — | — |
| Morogoro ... ... | 7 | 2 | 2 | — | 22 | 6 | 1 | — | 10 | 2 | — | — |
| Moshi... ... ... | 86 | 5 | 16 | 2 | 88 | 6 | 15 | — | 58 | 7 | 7 | — |
| ,, Kibongoto ... | 83 | 6 | 48 | 1 | 90 | 6 | 107 | 2 | 162 | 6 | 76 | 2 |
| ,, District work* | 113 | — | 377 | — | 326 | — | 419 | — | 661 | — | 405 | — |
| ,, Usangi ... | 150 | 13 | 100 | — | 153 | — | 102 | 1 | 111 | — | 44 | — |
| Mpwapwa ... ... | — | — | 2 | — | 2 | — | — | — | 3 | — | 1 | — |
| Musoma ... ... | 1 | — | 3 | — | 4 | 1 | 4 | 1 | 3 | 1 | 1 | — |
| Mwanza ... ... | 13 | — | 7 | 3 | 19 | 4 | 10 | — | 24 | 3 | 2 | — |
| ,, Health Office... | — | — | — | — | 29 | 4 | — | — | 24 | — | — | — |
| Mwaya ... ... | 1 | 1 | — | — | 2 | — | 15 | — | 5 | — | 21 | — |
| Nzega ... ... | 1 | — | — | — | 11 | 2 | — | — | 6 | 1 | 1 | — |
| Pangani ... ... | 12 | 2 | 2 | 2 | 30 | 5 | 11 | 2 | 18 | 2 | 1 | — |
| Shanwa ... ... | — | — | 4 | — | 6 | 2 | — | — | — | — | — | — |
| Shinyanga ... ... | 2 | 1 | — | — | 1 | — | — | — | 8 | — | — | — |
| Singida ... ... | 2 | — | 1 | — | 13 | 2 | — | — | 17 | 3 | 1 | — |
| Songea ... ... | 4 | — | 7 | — | 7 | — | 7 | 2 | 4 | 2 | 4 | 1 |
| Sumbawanga ... | — | — | — | — | 8 | — | 1 | — | 1 | — | 3 | — |
| Tabora ... ... | 20 | 4 | 3 | 3 | 8 | 4 | 4 | 1 | 26 | 1 | — | — |
| Tanga ... ... | 77 | 6 | 10 | 3 | 88 | 7 | 24 | 2 | 100 | 7 | 13 | — |
| ,, Health Office... | — | — | — | — | 56 | 25 | — | — | 111 | — | — | — |
| Tukuyu ... ... | 11 | 2 | 3 | — | 18 | — | 19 | — | 14 | 2 | 20 | 1 |
| Tunduru ... ... | — | — | — | — | — | — | — | — | 2 | 1 | 1 | — |
| Utete ... ... | 3 | 1 | 2 | — | 7 | 1 | 3 | — | 4 | 2 | — | — |
| ,, District work* | — | — | — | — | 3 | — | — | — | — | — | — | — |
| Total ... | 892 | 65 | 634 | 18 | 1,344 | 121 | 825 | 14 | 1,784 | 79 | 691 | 13 |

*Not included in returns of diseases and deaths.

## 8. Health of the King's African Rifles.

The health of the King's African Rifles has given no cause for concern. Six deaths among native troops occurred and thirteen invalidings. Units were stationed at Dar es Salaam, Tabora, Masoko (near Tukuyu), Songea, Arusha, Mahenge and Bukoba (temporarily only) during the year. At Dar es Salaam the mean effective monthly strength of all units was 313 : the mean of the average number of sick was 4·17, a sick rate of 1·33 per cent.

## 9. Health of Prisoners.

The general health of the prisoners throughout the Territory was satisfactory. The sickness and death rates show slight increases above those for 1933.

The annually increasing number of prisoners has led to overcrowding in some prisons, which, in conjunction with the system of association cells, tends to increase the number of cases of minor infectious diseases, such as chickenpox, mumps and measles. The provision of new and more satisfactory prisons is receiving the attention of Government and there is reason to believe that conditions will be improved as soon as the financial situation justifies the heavy expenditure which the provision of modern prisons entails. Meanwhile every care is taken to maintain the existing buildings in the most satisfactory condition possible, and careful attention is paid to the dietary.

The figures for the last five years are as follows :—

| | Daily average number of prisoners | Daily average on sick list | Admissions to hospital | Number of deaths | Deaths per 1,000 prisoners |
|---|---|---|---|---|---|
| 1930 ... | 2,106·10 | 45·9 | 876 | 48 | 22·79 |
| 1931 ... | 2,370·00 | 44·6 | 1,015 | 51 | 24·89 |
| 1932 ... | 2,417·00 | 90·3 | 1,096 | 58 | 23·99 |
| 1933 ... | 2,518·09 | 82·3 | 1,231 | 43 | 17·07 |
| 1934 ... | 2,725·01 | 85·7 | 1,395 | 50 | 18·34 |

Twelve deaths were due to surgical conditions ; fifteen to respiratory and infectious diseases ; and seven to digestive disorders of which four were ascribed to enteritis.

## 10. Port Health Work and Administration.

The quarantine station for the sea ports of Tanganyika Territory is at Zanzibar and is well organized and equipped. Owing to shortage of staff it was not possible to replace the Port Health Officer at Dar es Salaam who proceeded on leave in the middle of the year, and consequently his work has fallen on the Medical Officer of Health. The Senior Health Officers stationed at Tanga and at Mwanza, the Medical Officers at Bukoba, Kigoma, Lindi and Musoma, the Sub-Assistant Surgeons at Kilwa, Pangani, Bagamoyo, Mikindani and Mafia and the Compounder at Mwaya, carry out the duties at those ports.

Services were maintained at the larger ports in accordance with the requirements of the International Sanitary Convention.

A Conference of Health Officers, at which the Port Health Officer of Zanzibar was present, was held at Dar es Salaam in July to discuss pratique procedure in East African ports. It was agreed that measures should be taken at an early date for the relaxation of this procedure in the case of vessels able to comply with certain conditions.

Dr. F. V. Adams, Port Health Officer of Dar es Salaam, received the thanks of the Secretary of State for the Colonies for a memorandum on the working

of the system of international quarantine messages at the port of Dar es Salaam.

The numbers of steamers and dhows given pratique during the year at the different ports are as follows :—

| Stations | Steamers | Dhows |
|---|---|---|
| Bagamoyo ... ... | 2 | 555 |
| Bukoba ... ... | 87 | 135 |
| Dar es Salaam ... | 540 | 1,850 |
| Kigoma ... ... | 285 | 195 |
| Kilwa ... ... ... | 29 | 184 |
| Lindi ... ... ... | 98 | 105 |
| Mafia ... ... ... | 26 | 263 |
| Mikindani ... ... | 49 | 117 |
| Musoma ... ... | 71 | 193 |
| Mwanza ... ... | 12 | — |
| Mwaya ... ... | 12 | — |
| Pangani ... ... | 65 | 239 |
| Tanga ... ... ... | 440 | 645 |
| Total ... | 1,716 | 4,481 |

## 11. Sanitation.

Sanitary services have been maintained as far as possible throughout the Territory.

*Sewerage.*—In Tanga township, the wider distribution of the main water supply has rendered the problem of sewage disposal acute, owing to the water-logging of the sub-soil by the increased volume of sewage discharged into it from cesspools and septic tanks ; it is satisfactory to be able to report that an expenditure of £13,000 was authorized under loan funds for the construction of a part of the sewerage scheme planned by the consulting engineers in 1930. It has been found necessary as a result of float experiments carried out in the harbour to amend this scheme ; and new proposals are being considered by the consulting engineers.

*Water supplies.*—Weekly bacteriological examinations of the Dar es Salaam supply have been continued throughout the year and have given most satisfactory results (see Laboratory Report, pages 81 and 94).

A pipe-borne water supply has been installed in Arusha, intended primarily to provide a supply of pure water for the hospital but capable of serving also the principal residential and commercial areas in the township.

*Aedes mosquito breeding.*—A table showing the Aedes Index for various stations where domestic mosquito control is attempted is reproduced at page 25.

The unsatisfactory conditions of water storage on dhows as indicated by the high findings at Dar es Salaam may be compared with the improvement which has been effected on the more easily controlled shipping on Lake Tanganyika, as shown under Kigoma, where "nil" findings throughout the year were recorded.

## Aedes Index for 1934.

(The Aedes Index is the percentage of houses inspected in which the larvæ of Aedes mosquitoes are found.)

| | Jan. | Feb. | March | April | May | June | July | Aug. | Sept. | Oct. | Nov. | Dec. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Arusha ... ... ... ... ... ... | Nil | Nil | Nil | Nil | Nil | Nil | Nil | Nil | Nil | Nil | Nil | Nil |
| Bukoba ... ... ... ... ... | ·10 | Nil | ·06 | Nil | ·05 | ·06 | Nil | Nil | Nil | Nil | Nil | ·12 |
| Dar es Salaam (whole town excluding dhows) | 2·91 | 2·80 | 4·62 | 6·87 | 7·85 | 4·92 | 2·77 | 2·37 | 2·03 | 1·89 | 1·81 | 3·65 |
| Dar es Salaam Zone I (Residential) ... | 1·81 | 1·19 | 2·11 | 4·80 | 3·86 | 3·07 | 1·94 | ·95 | 1·03 | ·95 | ·64 | 2·69 |
| Dar es Salaam Zone II (Commercial) ... | ·74 | ·65 | ·75 | 2·83 | 5·46 | 4·52 | ·91 | 1·89 | 1·44 | 1·24 | 1·62 | 3·22 |
| Dar es Salaam Zone III (Native Quarter) ... | 4·77 | 4·59 | 7·57 | 9·79 | 10·19 | 5·44 | 3·59 | 3·43 | 3·25 | 3·08 | 2·67 | 4·38 |
| Dar es Salaam, Dhows ... ... ... | 4·43 | 5·97 | 10·59 | 7·00 | 23·30 | 11·95 | 8·77 | 9·92 | 7·09 | 7·78 | 4·42 | 5·40 |
| Dodoma ... ... ... ... ... | ·24 | 2·77 | 1·22 | ·22 | Nil | Nil | Nil | Nil | ·49 | ·18 | Nil | Nil |
| Kigoma ... ... ... ... ... | 1·03 | 1·02 | 1·58 | 1·19 | ·95 | ·44 | Nil | ·22 | ·38 | ·85 | 1·56 | 2·19 |
| Kigoma (on ships) ... ... ... ... | Nil | Nil | Nil | Nil | Nil | Nil | Nil | Nil | Nil | Nil | Nil | Nil |
| Kilosa ... ... ... ... ... ... | 2·50 | 5·75 | 6·80 | 2·80 | 4·60 | 2·90 | 2·90 | 4·10 | 4·30 | 4·50 | 4·60 | 6·30 |
| Kilwa ... ... ... ... ... ... | 4·55 | 3·80 | 2·78 | 7·20 | 5·29 | 4·03 | 3·07 | 5·39 | 2·50 | 3·40 | 9·80 | 10·70 |
| Lindi ... ... ... ... ... ... | 2·14 | 3·91 | 4·89 | 5·80 | 4·19 | 5·30 | 3·81 | 3·47 | 3·53 | 4·13 | 4·46 | 4·90 |
| Morogoro ... ... ... ... ... | ·03 | Nil | Nil | ·01 | ·07 | ·05 | ·28 | ·13 | ·11 | ·04 | Nil | ·28 |
| Moshi ... ... ... ... ... ... | Nil | Nil | Nil | ·08 | Nil | Nil | ·39 | Nil | Nil | Nil | Nil | Nil |
| Mwanza ... ... ... ... ... | ·50 | ·70 | ·70 | ·70 | ·60 | ·20 | ·10 | ·08 | ·05 | ·20 | ·40 | ·50 |
| Pangani ... ... ... ... ... | 3·70 | 4·70 | 3·30 | 4·70 | 5·00 | 6·30 | 6·09 | 6·62 | 5·28 | 5·10 | 5·97 | 7·00 |
| Shinyanga ... ... ... ... ... | Nil | Nil | Nil | Nil | Nil | Nil | Nil | 10·28 | 1·00 | 2·65 | 1·97 | 7·89 |
| Songea ... ... ... ... ... | 3·00 | 1·70 | Nil | ·80 | Nil | Nil | Nil | Nil | Nil | Nil | Nil | Nil |
| Tabora ... ... ... ... ... ... | ·26 | ·29 | ·84 | ·14 | ·07 | Nil | ·20 | ·23 | Nil | ·20 | ·20 | ·40 |
| Tanga ... ... ... ... ... ... | ·30 | ·16 | ·36 | ·65 | ·66 | ·59 | ·23 | ·23 | ·16 | ·25 | ·17 | ·30 |

## 12. Statistics.

### *(1).—General Native Population.*

The most recent estimate of the population of the Territory is computed at 5,022,640. No reliable statistics relating to birth, death and infant mortality rates are available at present.

### *(2).—General European Population.*

Acknowledgment is made to the Registrar General of Births and Deaths for a return of the registered deaths, a total of sixty-nine, which are summarized as follows :—

CAUSES OF DEATHS OF EUROPEANS DURING 1934.

(Classified according to the Manual of the International List of Causes of Deaths, 1931.)

| | |
|---|---|
| Infectious and Parasitic Diseases ... ... ... ... ... ... | 22 |
| Cancer and other Tumours ... ... ... ... ... ... ... | 5 |
| Chronic Poisoning ... ... ... ... ... ... ... ... | 1 |
| Diseases of the Nervous and Sense Organs ... ... ... ... | 1 |
| ,, ,, Circulatory System ... ... ... ... ... | 6 |
| ,, ,, Respiratory ,, ... ... ... ... ... | 7 |
| ,, ,, Digestive ,, ... ... ... ... ... | 6 |
| Non-Venereal Diseases of the Genito-Urinary System and Annexa ... | 2 |
| Diseases of Pregnancy, Childbirth and the Puerperal State ... ... | 3 |
| ,, Early Infancy ... ... ... ... ... ... ... | 2 |
| Affections produced by External Causes ... ... ... ... ... | 11 |
| Ill-defined Diseases ... ... ... ... ... ... ... ... | 3 |
| Total ... | 69 |

### *(3).—European Official Population.*

(For table of sick, invaliding and death rates, see page 28.)

*Deaths.*—There were no deaths among European officials.

*Invalidings.*—Eight European officials were invalided during the year as compared with six and four during the two preceding years :—

| | 1932 | 1933 | 1934 |
|---|---|---|---|
| Tuberculosis ... ... ... ... ... | 2 | — | 1 |
| Pain in the region of gall bladder ... ... | — | — | 1 |
| Neurasthenia ... ... ... ... ... | — | 2 | — |
| Mediastinal Neoplasm ... ... ... | — | 1* | — |
| Neoplasm of the neck... ... ... ... | — | — | 1 |
| Pleurisy ... ... ... ... ... | — | 1 | — |
| Malaria and Blackwater ... ... ... | 1 | — | — |
| Empyema ... ... ... ... ... | — | — | 1 |
| Insomnia ... ... ... ... ... | 1 | — | — |
| Septicæmia ... ... ... ... ... | 1 | — | — |
| Auricular fibrillation ... ... ... ... | 1 | — | — |
| Epilepsy ... ... ... ... ... | — | — | 1 |
| Gastric Ulcer ... ... ... ... ... | — | — | 2 |
| Debility... ... ... ... ... ... | — | — | 1 |
| Total ... | 6 | 4 | 8 |

* Subsequently died in England.

*(4).—Asian Official Population.*

*Deaths.*—There were three deaths among Asian officials, two due to disease, one to violence :—

| | 1932 | 1933 | 1934 |
|---|---|---|---|
| Blackwater fever | 3 | — | 1 |
| Heart failure | — | 1 | — |
| Embolism | — | 1 | — |
| Acute Appendicitis | — | — | 1 |
| By violence | — | — | 1 |
| Total | 3 | 2 | 3 |

*Invalidings.*—Six Asian officials were invalided during the year :—

| | 1932 | 1933 | 1934 |
|---|---|---|---|
| Pulmonary Tuberculosis | 1 | 1 | — |
| Asthmatic Bronchitis | 1 | — | — |
| General debility and premature senility | 1 | 1 | — |
| Chronic Appendicitis | 1 | — | — |
| Malaria and Blackwater | 1 | — | — |
| Colic and Jaundice | 1 | — | — |
| Mental derangement | 1 | 1 | — |
| Myopia and Chronic Trachoma | 1 | — | — |
| Chronic Fistula | — | 1 | — |
| Chronic Cholecystitis | — | 1 | — |
| Choroidoretinitis | — | 1 | — |
| Sciatica | — | — | 1 |
| Neurasthenia | — | — | 1 |
| Diabetes | — | — | 1 |
| Cardiac dilatation | — | — | 1 |
| Mediastinal new growth | — | — | 1 |
| Gastric Ulcer | — | — | 1 |
| Total | 8 | 6 | 6 |

*(5).—Classification of Hospital Cases and Deaths.*

Tables showing the classification of hospital cases and deaths by groups for 1933 and 1934 are given at page 29; and detailed lists of diseases and deaths classified in groups for all races and for Europeans separately are at pages 49 and 63.

Diagrams showing the proportion of cases and deaths at hospitals classified according to the groups used in the Manual of the International List of Causes of Deaths are reproduced at pages 30 and 31.

The proportion of infectious and parasitic cases and of the different component diseases of that group remained almost the same as in 1933. The proportion of deaths was also similar, though more deaths in the infectious group were ascribed to helminthic diseases, malaria and dysentery, while those from tuberculosis and other diseases fell proportionately.

## Sick, Invaliding and Death Rates, European and Asian Officials.

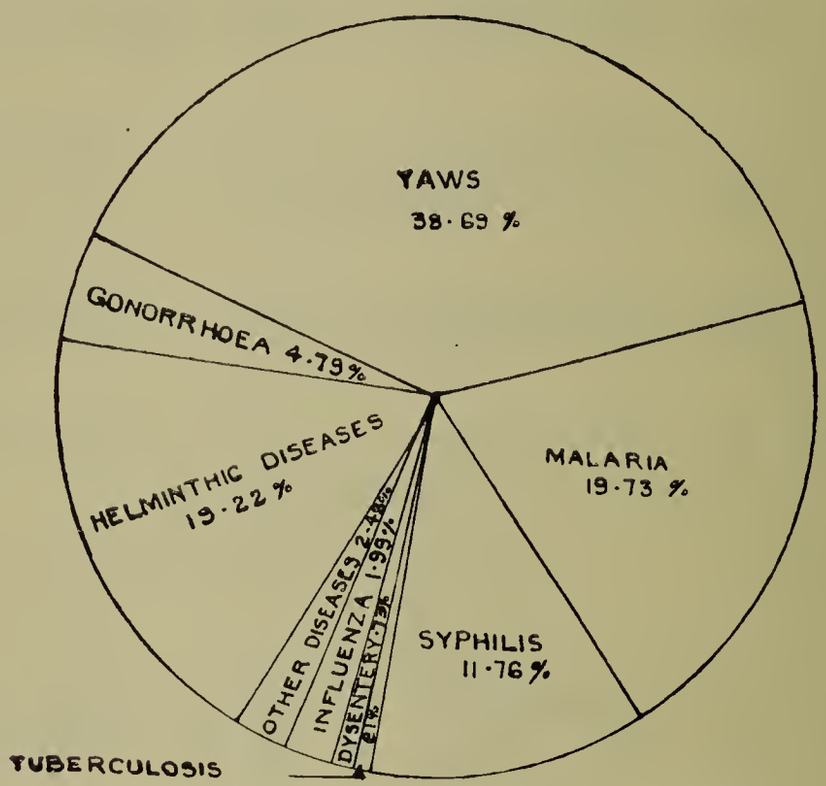
| | European | | | Asian | | |
|---|---|---|---|---|---|---|
| | 1932 | 1933 | 1934 | 1932 | 1933 | 1934 |
| 1. Total number of Officials Resident ... ... ... ... | 1,387 | 1,132 | 965 | 1,653 | 1,336 | 1,152 |
| 2. Average number Resident ... ... ... ... ... | 815 | 727 | 598 | 1,166 | 970 | 841 |
| 3. Total number on Sick List... ... ... ... ... ... | 685 | 497 | 623 | 1,255 | 700 | 823 |
| 4. Total number of days on Sick List ... ... ... ... | 4,639 | 3,328 | 4,434 | 5,974 | 3,386 | 4,117 |
| 5. Average daily number on Sick List ... ... ... ... | 12·67 | 9·12 | 12·15 | 16·32 | 9·28 | 11·28 |
| 6. Percentage of sick to average number Resident ... ... | 1·55 | 1·25 | 2·03 | 1·40 | 0·96 | 1·34 |
| 7. Average number of days on Sick List for each Patient ... | 6·77 | 6·70 | 7·12 | 4·76 | 4·84 | 5·00 |
| 8. Average sick time to each Resident ... ... ... ... | 5·69 | 4·58 | 7·41 | 5·12 | 3·59 | 4·89 |
| 9. Total number Invalided ... ... ... ... ... ... | 6 | 4 | 8 | 8 | 6 | 6 |
| 10. Percentage of Invalidings to Total Resident ... ... ... | 0·43 | 0·35 | 0·83 | 0·48 | 0·45 | 0·52 |
| 11. Total Deaths ... ... ... ... ... ... ... | 3 | 8 | Nil | 3 | 2 | 3 |
| 12. Percentage of Deaths to Total Resident ... ... ... ... | 0·22 | 0·71 | Nil | 0·18 | 0·16 | 0·26 |
| 13. Percentage of Deaths to average number Resident ... ... | 0·37 | 1·10 | Nil | 0·26 | 0·21 | 0·36 |
| 14. Number of cases of sickness contracted away from Residence | 18 | 12 | 5 | 5 | 3 | 2 |

## Cases and Deaths by Groups, 1934.

| | Cases | | Deaths | | Percentage of group to total cases | | Percentage of deaths to total deaths | |
|---|---|---|---|---|---|---|---|---|
| | 1933 | 1934 | 1933 | 1934 | 1933 | 1934 | 1933 | 1934 |
| I.—Infectious and Parasitic Diseases... ... ... | 191,456 | 211,702 | 507 | 499 | 35·04 | 36·36 | 40·63 | 33·13 |
| II.—Cancer and other Tumours ... ... ... | 402 | 422 | 45 | 49 | 0·07 | 0·08 | 3·61 | 3·25 |
| III.—Rheumatism, Diseases of Nutrition and of Endocrine Glands and other General Diseases ... | 6,187 | 5,609 | 8 | 16 | 1·13 | 0·96 | 0·64 | 1·06 |
| IV.—Diseases of the Blood and Blood-forming Organs | 3,766 | 4,064 | 14 | 16 | 0·69 | 0·70 | 1·12 | 1·06 |
| V.—Chronic Poisoning ... ... ... ... ... | 29 | 85 | ... | ... | 0·01 | 0·01 | ... | ... |
| VI.—Diseases of the Nervous and Sense Organs ... | 48,797 | 49,024 | 47 | 62 | 8·93 | 8·42 | 3·77 | 4·12 |
| VII.—Diseases of the Circulatory System ... ... | 2,477 | 2,261 | 26 | 43 | 0·45 | 0·39 | 2·08 | 2·86 |
| VIII.—Diseases of the Respiratory System ... ... | 64,464 | 68,234 | 213 | 279 | 11·80 | 11·72 | 17·07 | 18·53 |
| IX.—Diseases of the Digestive System ... ... | 83,405 | 92,177 | 104 | 145 | 15·27 | 15·83 | 8·33 | 9·62 |
| X.—Non-venereal Diseases of the Genito-Urinary System and Annexa ... ... ... ... ... | 4,838 | 5,027 | 52 | 66 | 0·89 | 0·86 | 4·17 | 4·38 |
| XI.—Diseases of Pregnancy, Childbirth and the Puerperal State | 1,088 | 1,516 | 30 | 42 | 0·20 | 0·26 | 2·40 | 2·80 |
| XII.—Diseases of the Skin and Cellular Tissue ... | 83,967 | 83,410 | 40 | 57 | 15·37 | 14·33 | 3·21 | 3·78 |
| XIII.—Diseases of the Bones and Organs of Locomotion | 14,614 | 16,478 | 17 | 17 | 2·67 | 2·83 | 1·36 | 1·13 |
| XIV.—Congenital Malformations ... ... ... | 14 | 14 | 1 | 3 | ... | ... | 0·08 | 0·20 |
| XV.—Diseases of Early Infancy ... ... ... | 181 | 150 | 4 | 8 | 0·03 | 0·03 | 0·32 | 0·53 |
| XVI.—Old Age ... ... ... ... ... ... | 499 | 530 | 18 | 34 | 0·10 | 0·09 | 1·44 | 2·26 |
| XVII.—Affections produced by External Causes ... | 37,278 | 37,988 | 110 | 152 | 6·82 | 6·52 | 8·81 | 10·09 |
| XVIII.—Ill-defined Diseases ... ... ... ... | 2,899 | 3,557 | 12 | 18 | 0·53 | 0·61 | 0·96 | 1·20 |
| Total ... | 546,361 | 582,248 | 1,248 | 1,506 | 100·00 | 100·00 | 100·00 | 100·00 |

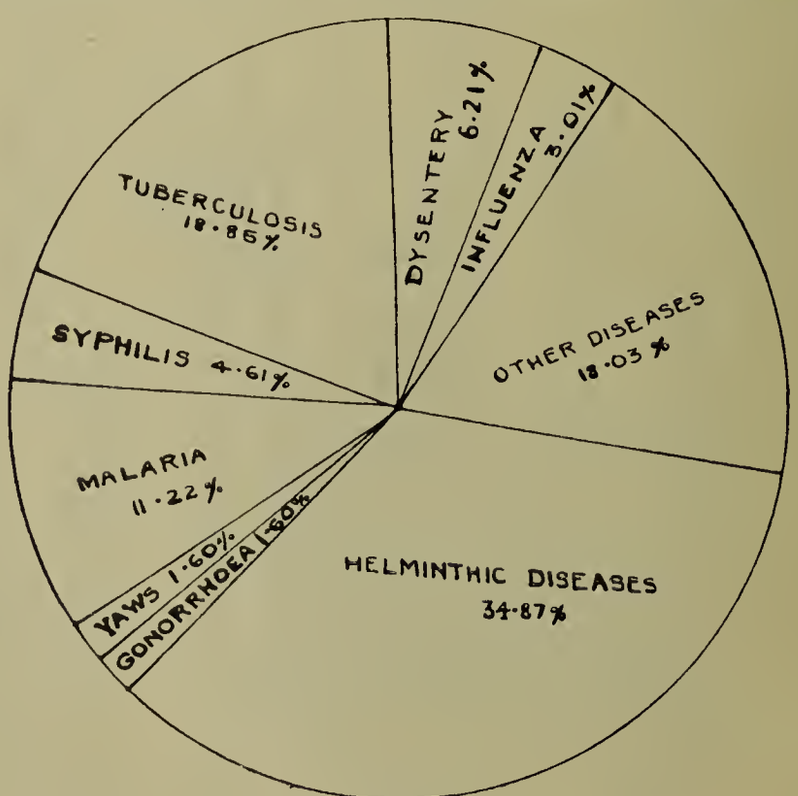
Note.—The classification is in accordance with the Manual of The International List of Causes of Death, 1931 edition.

## Proportion in Percentages of Infectious and Parasitic Diseases In- and Out-Patients Treated at Hospitals and Dispensaries



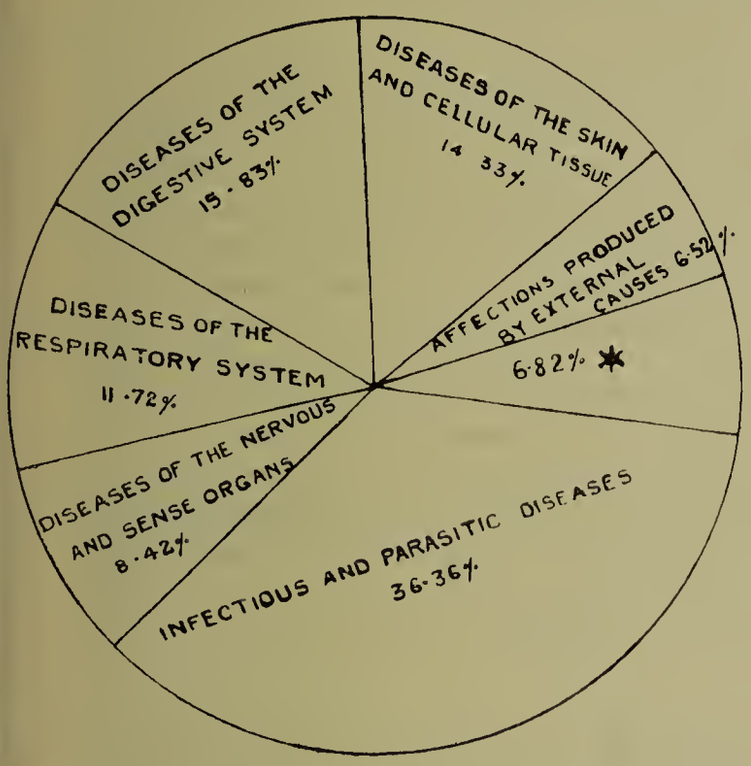

TOTAL INCIDENCE 211,702

## Proportion of Deaths in Percentages of Infectious & Parasitic Diseases In-and Out-Patients at Hospitals and Dispensaries




TOTAL DEATHS 499

# Proportion of Infectious, Parasitic, Systemic and other Diseases Shown as Percentages of Total cases Treated at Hospitals & Dispensaries

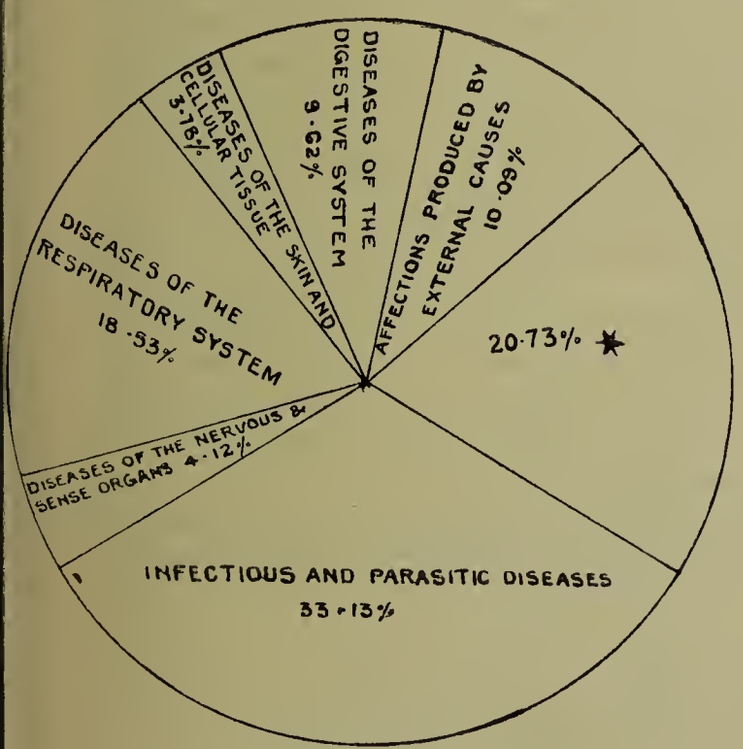



* 

| | |
|---|---|
| CANCER AND OTHER TUMORS | 0·08% |
| RHEUMATISM, DISEASES OF NUTRITION AND OF ENDOCRINE GLANDS AND OTHER GENERAL DISEASES | 0·96% |
| DISEASES OF THE BLOOD AND BLOOD-FORMING ORGANS | 0·70% |
| CHRONIC POISONING | 0·01% |
| DISEASES OF THE CIRCULATORY SYSTEM | 0·39% |
| NON-VENEREAL DISEASES OF THE GENITO-URINARY SYSTEM AND ANNEXA | 0·86% |
| DISEASES OF PREGNANCY, CHILDBIRTH AND THE PUERPERAL STATE | 0·26% |
| DISEASES OF THE BONES AND ORGANS OF LOCOMOTION | 2·83% |
| DISEASES OF EARLY INFANCY | 0·03% |
| OLD AGE | 0·09% |
| ILL-DEFINED DISEASES | 0·61% |

TOTAL INCIDENCE 582,248

# Proportion of Deaths of Infectious, Parasitic, Systemic & other Diseases Shown as Percentages of Total Deaths at Hospitals & Dispensaries




* 

| | |
|---|---|
| CANCER AND OTHER TUMORS | 3·25% |
| RHEUMATISM, DISEASES OF NUTRITION AND OF ENDOCRINE GLANDS AND OTHER GENERAL DISEASES | 1·06% |
| DISEASES OF THE BLOOD AND BLOOD-FORMING ORGANS | 1·06% |
| DISEASES OF THE CIRCULATORY SYSTEM | 2·86% |
| NON-VENEREAL DISEASES OF THE GENITO-URINARY SYSTEM AND ANNEXA | 4·38% |
| DISEASES OF PREGNANCY, CHILDBIRTH AND THE PUERPERAL STATE | 2·80% |
| DISEASES OF THE BONES AND ORGANS OF LOCOMOTION | 1·13% |
| DISEASES OF EARLY INFANCY | 0·53% |
| CONGENITAL MALFORMATIONS | 0·20% |
| OLD AGE | 2·26% |
| ILL-DEFINED DISEASES | 1·20% |

TOTAL DEATHS 1,506

## III.—ABSTRACTS FROM THE ANNUAL REPORTS OF THE MEDICAL OFFICERS OF HEALTH.

*Dar es Salaam:* Dr. W. J. Aitken, Medical Officer of Health.

Owing to staff shortage, it was found impossible to replace the Port Health Officer and his work has fallen upon the Medical Officer of Health. This has meant very long working hours for the latter and certain activities of the department have necessarily been restricted. School medical inspection has suffered considerably and the visiting of the Infectious Diseases Hospital and the Maternity and Child Welfare Clinic has been curtailed.

New regulations in regard to pratique are under consideration which it is hoped will relieve the Medical Officer of Health of certain port duties, but the work of the department urgently requires a second medical officer.

The vital statistics of Dar es Salaam Township do not justify quotation at length. The crude rates for Europeans are accurate but this section of the population is small and selected as regards age and other conditions. The Asiatic and African returns are at present of little value. The crude death-rates for the year under review were: European 4·4, Asiatic 13·8 and African 16·5.

On 1st January locusts invaded the township and countless numbers of them were drowned in the sea. During the next few days dead fish were washed up on the local beaches but careful investigation could not trace any connection between the two events and the cause of the death of the fish remains unsolved.

Milk sampling continued throughout the year and of 192 samples, five were found to contain added water and two to be very dirty; there was one conviction. The question of security of tenure of the land by dairymen has not yet been settled and little progress can be made in the meantime with improvement of buildings and provision of milking sheds. Regular visits of inspection have been made to the cowsheds and some improvement has been effected. The use of milk vendors' discs has proved very satisfactory and the task of inspection has been greatly facilitated thereby.

The Township Authority has entered into a contract with the local brewery for the supply of native beer for sale in the beer market; it is too early yet to forecast the financial success of this scheme but the beer is prepared by cleaner methods than those of the native brewers.

Attention is drawn to the need for legislation to deal with adulteration of food. Regulations requiring a standard for imported condensed milks have been promulgated, and it is proposed to limit the amount of acidity in maize meal submitted for government contracts. Wider powers, however, are necessary and definitions are urgently required.

The offal sellers who were previously housed in the shark market have now a small market of their own. It is anticipated that the new market bye-law which prohibits the sale of shark or other malodorous dried fish in the shops will increase the volume of trade in the shark market.

The Ilala suburb has now a small market, a beer market and even a minute shark market, and it is hoped that, as funds permit, these services may be extended to meet the full requirements of this growing district.

Discretionary power has been given to the Township Authority to compel manufacturers of any kind of foodstuffs to use the public water supply.

Legislation is under consideration to bring butchers, fishmongers, greengrocers and barbers under closer control.

A marked decrease in hawking has been effected by the Municipal Secretary and his staff, who have swept the bulk of these unlicensed traders into the markets. Certain of the aged and infirm hawkers have received permits to continue trading within limited areas, and the practice generally is now under control.

No cases of smallpox or other major epidemic diseases were reported during the year. Two cases of malignant pustule occurred in workers in hide godowns in the town.

Unusually heavy rains caused the flooding of the golf links for six weeks and the malaria rate for the township was considerably higher than that of 1933. The ædes index for the whole town was 3·6, an unfortunately high figure which is attributed to the native habit of storing water in open vessels.

The methods of refuse collection described in previous reports have been continued with the exception that the system of street sweeping has been altered by the allocation of a street (or streets) to one man, an experiment which has worked successfully. Many of the dustbins or substitutes for dustbins, e.g. oil-drums, boxes, etc., are most unsatisfactory and it is proposed in future to specify on the statutory notice the type of dustbin required in the township.

The water supply has maintained its good quality and no traces of organisms of excretory origin were detected.

Funds are not yet available for the installation of a water-borne sewage system; the need is becoming more and more urgent, particularly for the bazaar area.

The search for a site for a new European cemetery continues but agreement has not yet been reached on the area most suitable for this purpose.

Bush clearing has taken place at Oyster Bay and to the west of the MacGowan Estate and sanction has now been received to throw open these areas for cultivation under yearly licences. By this means it is hoped that occupation will be found for unemployed natives and bush will be kept clear at little or no expense.

A very successful Baby Show was held in August in connection with the Maternity and Child Welfare Clinic.

The Medical Officer of Health and Port Health staff cleared 540 ships and 1,850 dhows during the year.

During the year 23,332 rats were trapped of which the large majority were *Rattus rattus*. Of 2,988 examined at the laboratory none showed any signs of plague.

Few opportunities to inspect out-stations presented themselves, but visits were paid to the minor settlements of Ruvu and Soga in which sanitary authorities have been appointed. Although in their infancy these appear fairly successful, but until a second medical officer is appointed to deal with shipping only cursory district work is possible.

*Tanga:* Dr. A. I. Meek, Medical Officer of Health.

An outbreak of smallpox occurred in Tanga District during the months of March, April and May. There were 68 cases with 25 deaths.

The cases, which were first noted in the Kilulu area near Moa, were of a particularly virulent type. In this area 39 cases occurred with 19 deaths, seven of the cases being of the confluent type. Simultaneously five cases occurred at Dima in Gombero area. These were of a milder form with no deaths. Later, the disease reappeared in Lanzoni in the Sigi-Segoma area. These cases were of a virulent form but less so than at Moa. At Lanzoni 24 cases occurred with six deaths, three cases of confluent type being noted.

It was found impossible to trace the source of infection with any accuracy, several deaths having occurred before the disease was notified. Information elicited was unreliable and a tendency to concealment, especially in the Moa area, was evident. Illicit dhow traffic, at that time under investigation, was suspected; it is possible, however, that the infection may have entered the district by land from the north.

A very thorough vaccination campaign was instituted, not only locally in township and district including plantations but also throughout the province. In Tanga Township and District alone 54,362 vaccinations were performed during the year.

The usual measures were taken with regard to establishing inspection and vaccination posts, precautions in respect of shipping, isolation of cases and quarantining of villages concerned. It was found necessary on a number of occasions to destroy infected huts by burning; in some cases it was considered desirable to compensate in order to discourage concealment of cases. During the quarantine of the village of Feza, where famine conditions were in evidence at the time, rations were provided for the quarantined natives. This effectually prevented any tendency to break quarantine. The general measures taken resulted in the restriction of the outbreak to a limited area of the district.

Anopheline breeding and malaria incidence showed an increase over those of previous years. This is ascribed to the heavy rains experienced particularly during the month of May.

In Tanga township, six European, 53 Asiatic and 281 African deaths were notified during the year. Eleven European births were recorded. The Asiatic and African birth rates are too unreliable to justify quotation.

The Maternity and Child Welfare Clinic increases in popularity year by year. The admissions for confinement were 130 as compared with 87 in 1933; and the total admissions 185 as compared with 122. How far the work and influence of this clinic have progressed during the last three years may be judged from the fact that the comparable figures for the year 1931 were only 12 and 40 respectively.

A most successful Health and Baby Week was held in February and a report of the proceedings was forwarded to the National Baby Week Council in connection with the "Imperial Baby Week Challenge Shield Competition." The Council awarded to the Tanga Baby Week one of the ten certificates of merit given to baby weeks throughout the Empire. The Tanga exhibition stimulated interest in public health generally and in the work of the clinic in particular. It is estimated that 6,000 natives attended the various demonstrations during the week. The exhibition huts were subsequently adopted for clinic use but the increase in the number of patients desiring admission has rendered them inadequate. A new permanent building is to be erected in 1935.

The cesspit system of sewage disposal has become most unsatisfactory in Tanga and nuisances resulting from it have steadily increased. The position became so acute during the present year that it became imperative to consider

the installation of a sewerage system. A scheme estimated to cost £13,000 was drawn up and the necessary funds provided, but its inception depends on further tests now being conducted on the effect of discharging the sewage into the harbour, and if these are unfavourable it will be necessary to seek a different outfall.

Improvements to Tanga Market were carried out during the year; the provision of concrete vegetable tables and of a water supply have materially assisted the maintenance of cleanliness in this market.

*Northern Province:* Dr. A. R. Lester, Medical Officer of Health.

Reference has been made in previous reports to the unlicensed and indiscriminate hut building in the Njoro Juu and Njoro Chini areas in Moshi Township. Warning notices appear to have acted more as a stimulant than a deterrent and the total of these unlicensed structures increased to over six hundred, encroachments taking place even into the Water Reserve and Railway Reserve. In view of the spread of malaria and the danger to water supplies radical action became imperative, and it was decided to clear an area of 300 yards wide outside the demarcating survey line. About 195 huts were involved and demolition orders were served. Over 100 have already been razed and the remainder, which are endangering the water supply, are to be removed before March, 1935.

The benefit of this hut clearance to all sections of the community is already perceptible and will be cumulative. Resulting on the removals, there has been a large demand for measured plots in the surveyed African section of the township, and all available plots have been leased. Three new blocks of plots have now been laid out near the aerodrome and already several plots have been taken up there.

The Njoro area was the subject of a special survey by the Medical Officer in charge of malaria research in the Tanga area, who reported that the whole of the population resident in the area was in a malarious environment and that in the case of the new arrivals "malignant" malaria was not very uncommon. *A. gambiæ* and more rarely *A. funestus* were found to be breeding in disused irrigation furrows and seepages associated with them. The anopheline house infestation was high and the parasite rate in children was 76·9 per cent. The spleen rate in 160 children examined was 81 per cent. which may be contrasted with a rate of only 5 per cent. in 288 examined in the native area on the mountain. The Medical Officer in charge of malaria research in the Tanga area has recommended the removal of as much of the population as possible from this area and a planned system of irrigation to reduce anopheline breeding places.

A preliminary malaria survey was also carried out at Usa, an area of European settlement on Mount Meru. The incidence of malaria was found to be appreciable at the middle levels of the estates and the trading centre itself to be highly malarious. A fairly extensive and thorough larval survey indicated that borrow-pits and other accidental depressions were the chief breeding places of domestic anopheles. *A. gambiæ* was found to be the only important species. Of 97 blood examinations made in children from various levels 70 per cent. were positive. The Medical Officer in charge of malaria research in the Tanga area concludes that a malaria problem evidently exists at Usa but that further work is necessary before it can be decided if control of all the possible *gambiæ* breeding places is practicable.

No case of plague has been reported in the province during the year.

Sporadic cases of enteric fever have occurred in different parts of the province and attention is again drawn to the polluted water supply of Arusha Township and to the facilities afforded by it for the spread of water-borne disease. A new piped system is, however, in hand, drawing supplies from the mountain springs well above the town, and is expected to be ready about the middle of 1935.

Helminthiasis of many kinds is prevalent throughout the province: reduction must rest largely on the spread of knowledge of ætiology.

Schistosomiasis has been recorded in several parts of the province, and three types of snail capable of acting as intermediaries in the propagation of this disease have been found at Mbugwe, Kahe, Lake Jipe, Usa River and elsewhere. Their presence at Usa is particularly important as this is the distributing centre of labour for the coffee estates and most of the labourers arriving from outside the province travel to Usa via the infected area of Mbugwe. Warnings of the danger have been issued locally and experiments are being carried out in the furrows of the area with the seeds of *Balanites ægyptiaca*.

The Medical Officer, Malaria, has twice visited the Government School at Old Moshi and the Health Officer has on three or four occasions inspected the school and dispensary. Other schools in the province visited by the Health Officer were the German one at Oldeani, the Greek one at Duluti, two mission schools, the European School at Arusha and the Indian School at Moshi. Improvements were suggested where necessary at each. At Moshi Indian School a medical examination of all the scholars was carried out.

The Pare District has during the year been transferred for health administration purposes from Tanga Province to the Northern Province, as it is more readily accessible from Moshi than from Tanga.

*Lake Province:* Dr. J. M. Campbell, Medical Officer of Health.

The year 1934 was extremely prosperous for the Lake Province, a record cotton crop, a record coffee crop, record sale of veterinary products and mining prospects brighter than ever before. It is impossible to avoid the optimistic outlook; but optimism would be misplaced if based solely on bumper crops which might not recur. It is true that very little of the profit has been put back into the land and that signs of consolidating gains and preparing for a rainy day are lacking. We do not notice any tendency to purchase ploughs or to erect permanent houses or to manure fields; on the contrary, surplus cash is quickly spent on flimsy coloured cloths, glass beads and other exciting gewgaws displayed by the local traders.

This state of affairs must be expected until the natives learn something different, and serious efforts are being made to induce the native to practise sound agricultural methods instead of depending on shifting cultivation and the grace of God—it is this that justifies optimism for the future. Permanent small holdings have been laid out in cleared areas and a few such holdings, well developed by trained Africans, show what may be expected. Co-operative methods of marketing have been started (tobacco in Biharamulo, ghee in Kwimba, etc.), marketing methods are being improved and, in fact, many advances are being made which are more important than the mere planting of more crops. All these activities will have important effects on the public health and are recorded as hopeful indications of the advent of stability and "fixed" farming. It is probable that living conditions would ultimately improve as a result of material prosperity and the slow spread of education,

but it is obvious that progress will be retarded greatly, if not quite checked, by the enervating debilitating diseases that harass the people.

During the year the prevalence of certain diseases was investigated and a very high incidence of malaria, hookworm, bilharzia and syphilis was noted—this had not been indicated by hospital returns; e.g. 484 malaria and 493 bilharzia cases were recorded for Mwanza hospital in 1933 whereas up to 60 per cent. of scattered samples of rural population showed malaria parasites in one thin film and up to 34 per cent. had bilharzia ova in their stools.

A vicious circle exists : unhealthy environment encouraging the spread of disease and the presence of disease preventing the improvement of environment.

Generally speaking, no permanent expensive schemes of town improvement have been advocated but such improvements as could be carried out cheaply have been effected, e.g. the installation of sewerage systems and water purification plant have not been attempted but an extensive anti-malarial drainage scheme near the Bukoba Customs area has been completed and the lake front in the Mwanza Township has been cleared (with a considerable mitigation of the mosquito nuisance).

In connection with schistosomiasis an attempt to propagate *Balanites ægyptiaca* in the Sukuma districts will be dealt with. There were no epidemics of dangerous disease though typhus threatened from the Belgian Congo and smallpox from the Tabora District—thanks to the keen co-operation of the Administration, vaccinations rose from 51,595 in 1933 to 120,039 in 1934.

Favourable weather conditions, lack of epidemics and the extended use of prison labour allowed expenditure to be cut by 12·6 per cent. without any loss of efficiency.

Unfortunately we have no reliable facts for the province as a whole on which to base deductions. In townships certain statistics are available but deductions therefrom may not be applied to out-districts and it is the out-districts, containing the mass of the population, which are our great concern. Hospital records are practically useless as an indication of the incidence of diseases—this was dealt with at some length in last year's annual report.

It seemed essential that a more accurate idea of the prevalence of endemic disease be acquired and medical surveys of samples of the population were started by the Senior Health Officer on tour. The results were sufficiently interesting. The routine followed was to distribute small packets of magnesium sulphate to people—usually about fifty in the afternoon. Those people brought stool samples in the paper the next morning. The stools were examined for helminth ova, blood slides and a hæmoglobin estimation (Tallquist Hæmoglobin scale) were made and the people were examined for enlarged spleens. Height and weight measurements were also made of the first two or three hundred. It may be noted in passing that there was no trouble whatever in persuading the people to undergo examination and about 85 per cent. of those to whom magnesium sulphate was given brought samples of stools the next morning. In all cases an administrative officer explained to the chief or headman what was required and no coercion was used nor promise of treatment given. The information obtained, scanty though it be, is actually the only accurate index to the state of the public health in out-districts. It would not be reasonable to attempt to make any detailed deductions from the results obtained, though the marked prevalence of the diseases investigated is obvious and the effect of these diseases is reflected in the low hæmoglobin content of the blood.

In 1935 it is proposed to carry on this work, if possible examining much larger numbers of people, and to make similar investigations in towns for the sake of comparison. It is not proposed to continue the height and weight records as these measurements take up considerable time, necessitate carrying a heavy weighing machine on *safari*, and are not of any particular value; from the records of 426 people measured one would say that males are shorter than Europeans and weigh less for a given height, and that females weigh less than average Europeans (the female weights include the pounds of metal carried round wrists and ankles). Height and weight recording was started because it was felt that there might be interesting differences between the under-fed but hookworm-free Wakara, the well-fed hookworm-infested Wakerewe and the more ordinary inland inhabitants. The differences were too slight to be very significant.

Normally, while investigations were being carried out no treatment was given, except that available in the tribal dressing stations, for two reasons (1) because it would raise doubts about the usefulness of the dressers if different and possibly more efficacious medicines were exhibited by a travelling doctor and (2) because treating cases would take a long time, complicate routine examinations and would therefore interfere with the collecting of information. In some remote places however a few hundred intramuscular injections of B.S.T. were given to cases of syphilis.

It might be found advisable during 1935 to carry out more treatment in places where there are no tribal dressers in order to encourage the people to come for examination.

*Vaccinations.*—120,039 vaccinations were done, as against 50,595 in 1933. This gratifying increase was due to tribal dressers having been trained to vaccinate and to the interest taken in the campaign by the Administration. Towards the end of the year numbers began to fall off owing, it was said, to a dearth of unvaccinated material.

*Malaria.*—1,200 cases were treated in Mwanza hospital this year as against 484 in 1933. This does not mean an increase in malaria but merely an increase in the number of bloods examined—the fact that there were only two deaths compared with four in 1933 bears this out. The usual anti-mosquito measures were carried out during the year. In Mwanza town the lake shore was cleared of undergrowth and maintained clean and open until late in December, when floating islands began to appear. Efforts were made to cut up some of these islands and have the pieces towed away by the steamboat *Otter*. By the end of the year very limited success had been achieved by these endeavours—failures were due to a lack of power in the *Otter*. It seems that the slow progress of breaking up the islands, dragging the fragments ashore with grappling irons and banking the lake shore with the debris will have to be resorted to. Though the maintenance of a clean lake shore is a work of some magnitude it is worth while if the comparative freedom from mosquito nuisance continues.

Another work of some importance was the draining of the Bukoba Customs swamp. This was made possible by transferring Shs. 1,000/- from the Mwanza Sanitary Labour vote to Bukoba in November. On page 4 of the Bukoba Annual Sanitation Report the following brief reference is made to this work: "During December 650 yards of anti-malarial drains were dug, enabling practically the whole of the southern end of the township to be drained directly into the lake. This was previously a swamp during the rains and a bad mosquito-breeding area."

*Relapsing Fever.*—This disease is very widespread. In townships every case of the disease notified is investigated and the usual "de-ticking" measures enforced.

*Elephantiasis.*—There were 58 cases of elephantiasis treated in hospital with no deaths. Last year 103 cases and four deaths were recorded.

*Venereal Diseases and Yaws.*—There were 4,382 cases of syphilis and 1,117 cases of yaws treated at the Mwanza hospital and 9,461 cases of syphilis or yaws were treated by the Mwanza and Kwimba tribal dressers. Three Kwimba tribal dressers started giving B.S.T. intramuscularly in October in addition to the three who had previously been doing so. In the last three months of the year these three dressers treated 778 cases, equivalent to 3,112 in a year. In 1935 when it is better known that treatment for syphilis is available at these places many more cases should be dealt with. Syringes, needles and sterilizers were issued to these dressers (one an African district sanitary inspector doing tribal dresser work) and a weekly distribution of B.S.T. solution was organized. The District Officer arranged matters so that it is possible in a three days' *safari* for a visiting medical officer to inspect all the Kwimba tribal dressers, on their "injection days."

The only practical method of dealing with these diseases at present is by treatment, and the only way of making treatment available on a large scale is by making use of trained tribal dressers.

*Tuberculosis.*—Occasional cases of advanced pulmonary tuberculosis are met with, but just how widespread the disease may be is not known. It seems that some factor may be present, diminished virulence of the causal organism, increased resistance of the people, a more generous supply of sterilizing sunlight, or what not, which modifies the course of the disease; certainly, tuberculosis does not appear to be so devastating economically as it is in Europe.

*Hookworm.*—Ankylostomiasis is very widespread. It is probably more prevalent than the returns would indicate, because they are results of one stool examination without the employment of any concentration methods. This is one of the diseases which well-trained dressers will be expected to diagnose and treat. They will also be expected to "propaganda" methods of preventing the spread of the disease.

*Bilharzia.*—As noted in last year's report both *S. mansoni* and *S. hæmatobium* are very prevalent and cause much ill-health.

Throughout the province wherever practicable the African district sanitary inspectors, and in two cases tribal dressers, were made members of the local authorities. Though it is too soon to expect very obvious improvements in all the minor settlements, in some cases the influence of a keen inspector is being felt. Several African district sanitary inspectors, chiefly in the Bukoba District, could not be made members of local authorities as they were acting as tribal dressers in charge of remote dressing stations.

The experiment of training African district sanitary inspectors in tribal dressing work and tribal dressers in sanitation did not produce very marked results, nor could results be expected in such a short time. The work of an African district sanitary inspector running a dressing station can be seen, and the number of cases treated can be recorded; but the effects of a sanitarian preaching hygiene are much more difficult to realize. It may well be that seed is being sown that will bear fruit in future years. It may be stated that African district sanitary inspectors are more successful in the dual role of dresser and sanitarian than the tribal dressers, and this is due entirely to the fact that African district sanitary inspectors are educated Africans—they have

been in contact with European civilization for years and are familiar with a mode of living other than that of rural Africa—they are capable of appreciating the reasons behind the measures of sanitation advocated.

It may be taken that the two functions of curative and preventive medicine should be combined, that the work of African district sanitary inspectors as tribal dressers shows that an educated African can carry out both functions and that the comparative failure of tribal dressers as sanitarians indicates the necessity for previous education.

In January a report was written advocating a scheme which might be called "controlled mass treatment" by specially trained dressers distributed throughout the province. With the co-operation of the Medical Officer of the hospital and the keen assistance of the Provincial Commissioner the scheme was steadily dragged from the sphere of nebulous ideas into the realm of practical politics. A meeting of District Officers was held in the Provincial Commissioner's office. The meeting agreed to the principles put forward and proceeded to work out ways and means of implementing the proposals. The creation of a training school was decided on; the allocation of financial responsibility was arranged; a site for the school was fixed, and the procuring of candidates, suitable terms during training and other such matters were discussed. It is not proposed in this report to deal with the details that had to be arranged or the difficulties that had to be overcome or the modifications that had to be made, but one distressing modification that might be mentioned was that the proposal to train only English-speaking scholars had to be abandoned owing to a lack of material. By the end of the year the buildings were almost completed, the equipment was on its way from England, the African dispenser-teacher installed and the candidates had been selected.

## IV.—EDUCATION OF THE PUBLIC IN HYGIENE.

In the Lake Province the system has been initiated of training African sanitary inspectors in the elements of clinical medicine and the tribal dressers in hygiene in order that both inspectors and dressers may carry on educational in addition to elementary clinical work.

A pamphlet in English on malaria for the information of the general public was published and distributed to all districts of the Territory. A pamphlet on maternity and child welfare was printed in the Kihaya language and issued to the natives of Bukoba and Biharamulo. A memorandum on sleeping sickness measures was issued: and other pamphlets on health subjects are in course of preparation.

One of the most important needs of the Territory with a view to improving the health of the inhabitants is education in elementary hygiene. Since literary education only reaches a relatively small proportion of the total population and the health personnel are strictly limited by their cost, it is difficult to reach the masses of the population, scattered as they are at an average density of less than fourteen per square mile. An effort, however, has been made in this direction by the issue of elementary health propaganda in the form of coloured posters printed in the vernacular and in some cases illustrated. While it is recognized that only a small proportion of the population can read such posters, it is felt that the literate members of the average community will be only too ready to show off their accomplishment by reading the contents of the poster aloud to others: and during 1933 and 1934 an intensive effort was made to distribute a series of twenty-four posters dealing with tuberculosis, general health and cleanliness, hookworm, malaria, sleeping sickness, tick fever,

smallpox and insect carriers of disease; and pamphlets in the vernacular on tuberculosis, malaria, sleeping sickness and maternity and child welfare were also made available to all who could read. Through the kind co-operation of other departments the posters were exhibited in public places, such as administrative offices, railway stations, hospitals, markets, native authority courts, schools and other places where large numbers of people would be likely to see them, and it is hoped that by continuing to push this form of propaganda that some improvement of the hygiene of housing and village life may result. In all 70,677 posters have been distributed.

## V.—SPECIAL RESEARCH.

### Undertaken with the Assistance of the Colonial Development Fund.

### 1. Tuberculosis.

Dr. Wilcocks, the Tuberculosis Research Officer, returned in August from the study leave in Europe, so generously provided by the trustees of the Carnegie Corporation. He is repeating and extending his culture and animal inoculation experiments on acid-fast bacilli occurring in sputum and other material. His proposals for future work include the following :—

A more thorough examination of all cases in which acid-fast bacilli other than tubercle bacilli are found.

The retesting of cases in which guinea-pig inoculation has already proved to be negative.

An attempt to differentiate between acid-fast bacilli by staining reactions.

Examination of specimens of air, soil and water for acid-fast bacilli.

An attempt to culture leprosy bacilli and an examination of the question of tuberculosis in leprosy cases.

Examination of the pathology of tuberculosis in natives by post mortem of cases which die of any disease in Moshi hospital.

Extension of tuberculin tests.

Further surveys of communities and contact and re-examination of those previously examined.

Experiments on animals with a laboratory culture of BCG from Cambridge.

Examination of houses and the use of house dust for animal inoculation.

Talks and demonstrations with influential natives.

Travelling through various districts of the Territory, making a survey of tuberculosis by diagnosis of cases and by tuberculin tests. This procedure will indicate those areas in which the disease is most prevalent.

### 2. Trypanosomiasis.

*Trypanosoma rhodesiense* research at the Tinde laboratory is referred to at page 19. The results have been published in various scientific journals, and the titles of papers and references are given at page 43.

### 3. Malaria.

*Anti-Malarial Works.*—The Anti-malarial Engineer, who was responsible for the routine work and discipline of the unit during the absence of the Malaria Research Officer on leave from February to October, 1934, completed that portion of the drainage improvement at Gerezani undertaken in 1933; and prepared a revised scheme for the drainage of this valley, estimated to cost £5,000.

*Endemiology.*—Data regarding morbidity, mortality, parasite incidence and other evidence of endemicity having already been collected and submitted with certain deductions as to their value, the activities of the unit during 1934 were confined to collecting material for aspects of the investigation not fully dealt with hitherto, namely congenital malaria, and the incidence of *P. ovale*. The

blood smears having been taken according to the plan previously adopted, and in the same areas, material is thus available for purposes of comparison with the results of the major investigation completed at the end of 1933.

With regard to the entomological survey, the general impressions to be gathered from the first two years work may be briefly mentioned here.

Firstly, the only anopheline mosquitoes showing evidence of having partaken of a blood meal, caught in native dwellings at Dar es Salaam, have been *A. gambiæ* (*costalis*) and *A. funestus*. Secondly, there appears to be a peak period for *A. gambiæ* : that is to say, most of the mosquitoes recovered from native dwellings during and after the rains are *A. gambiæ* while most recovered during the dry season are *A. funestus*. Thirdly, probably as a result of this seasonal variation of species, the infection rate is higher in *A. funestus* during the dry season than in *A. gambiæ* ; the converse holds for the rainy period. It has been shown that there is a wide range of salinity in the breeding water of *A. gambiæ*, but a more restricted range in its reaction, and the possible existence of a saline breeder has been suggested. Recent observations and tests carried out locally reveal the presence of *A. gambiæ*, var. *melas*, which breeds in water with a salinity of 800 to 2,000 parts per 100,000. A salinity of over 2,000 parts per 100,000 (obtained by allowing original breeding water to evaporate, tests for chlorides being made daily) is inimical to the continued existence of the larvæ of this species. The question of the invasion of houses by this anopheline is being carefully studied and is of great practical importance in this connection.

Another question under investigation is that of the part played by humidity in parasite development in the mosquito. With increased humidity there appears to be an increase not only in the number of parasites per mosquito dissected, but there is also a shortening of the period of maturation in the insect.

Changes in reaction (pH variations) appear to play little part in anopheline bionomics. *A. gambiæ* normally breeds locally in water with a pH range of 7·0 to 8·4 as estimated with a Hellige comparator. Tests carried out in the laboratory would appear to indicate that *A. gambiæ* is extremely adaptable to reaction variation in its breeding medium : collections of water containing *A. gambiæ* larvæ in all stages were reduced from pH 7·0 to pH 4·9, and development was in no way interfered with. This work is being continued.

*Malaria Control Measures.*—The routine control of anopheline mosquitoes is maintained so far as funds permit by oiling with "Shell" anti-malarial mixture, paris-green dusting, certain minor drainage operations and intensive catching of adult mosquitoes in native dwellings.

*Synthetic Anti-Malarial Drugs.*—Experiments are being carried out to determine the efficacy of these drugs in local malaria, and the general conclusion has been reached that atebrin and plasmoquine have a definite place in malaria therapy ; atebrin especially being most useful in anti-relapse treatment, in some cases of blackwater fever, and under other circumstances as in pregnancy complicated by malaria.

*Work at Tanga.*—The chief works carried out by the Tanga Unit have been :—

1. Routine survey of Tanga township.
2. Investigation of malaria in a native rural area (Gombero).
3. Survey of a sisal estate in order to formulate a scheme for reducing malaria on coastal estates.
4. Mapping of the incidence of malaria in Tanga area.

*Programme of future works.*

*Dar es Salaam.*—Further investigation of anopheline bionomics will continue until adequate data have been collected. Anti-malarial measures will be carried on to the extent permitted by the funds provided.

Investigation of induced hæmoglobinuria in monkeys, the incidence of *P. ovale* in the local population, the efficacy of the melanin test and cultural methods in the diagnosis of malaria are also being continued.

Surveys will be extended to other towns and large estates.

*Tanga.*—The work already performed has shown that the problem of urban malaria at Tanga does not justify further investigation ; but the rural malaria in the hilly districts to the north, the Usambara and Pare mountains and the Kilimanjaro and Meru areas, offer an ideal field for work of definite economic value and this will be pursued on the return of the Medical Officer from leave, following a study tour of malaria work in India, which was made possible by the grant of a Carnegie Fellowship.

The problem of malaria at Usa, an area of European settlement between Moshi and Arusha, will also be studied ; and it is hoped to carry out experiments in control measures on estates thereat.

## LIST OF SCIENTIFIC PAPERS PUBLISHED BY MEMBERS OF THE STAFF IN 1934.


Corson, J. F.—Latent Infection of *Trypanosoma brucei* in a White Rat. *Jl. Trop. Med. and Hyg.*, 1934, Jan. 1, Vol. 37, No. 1.

Direct and Cyclical Transmission of *Trypanosoma rhodesiense* through Guinea-pigs. A Comparison of the Reaction to Normal Human Serum. *Jl. Trop. Med. and Hyg.*, 1934, April 16, Vol. 37, No. 8.

A Further Note on a Strain of *Trypanosoma brucei* from Zululand. *Jl. Trop. Med. and Hyg.*, 1934, May 15, Vol. 37, No. 10.

The Cerebro-spinal Fluid of some small Antelope infected with *Trypanosoma rhodesiense*. *Ann. Trop. Med. and Parasit.*, 1934, Mar. 29, Vol. 28, No. 1.

The Infectivity of *Trypanosoma rhodesiense* in Relapses after Treatment with "Bayer 205." *Ann. Trop. Med. and Parasit.*, 1934, Mar. 29, Vol. 28, No. 1.

The Action of Bayer 205 on *Trypanosoma rhodesiense* in White Rats infected by Tsetse Flies. *Ann. Trop. Med. and Parasit.*, 1934, Dec. 20, Vol. 28, No. 4.

The Influence of the Dose of Trypanosomes and of the Body Weight in Experimental Infections of White Rats with *Trypanosoma rhodesiense*. *Ann. Trop. Med. and Parasit.*, 1934, Dec. 20, Vol. 28, No. 4.

Resistance of White Rats to Infection with *Trypanosoma rhodesiense* through eating Infected Tissues of Rats. *Ann. Trop. Med. and Parasit.*, 1934, Dec. 20, Vol. 28, No. 4.

Fairbairn, H.—Lange's Colloidal Gold Reaction and the Estimation of Total Proteins in the Cerebro-spinal Fluid of Rhodesian Sleeping Sickness, and their Significance in Prognosis. *Trans. Roy. Soc. Trop. Med. and Hyg.*, 1934, Mar. 12, Vol. 27, No. 5.

Latham, D. V.—An Unusually Large Retroperitoneal Cyst in an African Native. *East African M. J.*, 1934, Dec., Vol. XI, No. 9.

Mackay, R.—A Note on Atebrin and Plasmoquine in the Treatment of Malaria. *East African M. J.*, 1934, Sept., Vol. XI, No. 6.

Scott, R. R.—Note on the Preparation of Maize Flour by Natives in Tanganyika Territory. *S. African M. J.*, 1934, June.

Wilson, D. B. and Wilson (Mrs.) M. E.—On the Significance of Splenic Enlargement in East Africa. *East African M. J.*, 1934, Aug., Vol. XI, No. 5.

## AUTHORIZED ESTABLISHMENT OF THE DEPARTMENT.

STAFF.—*European:*

Director of Medical and Sanitary Services.
Deputy Director of Medical Service. (Not filled.)
Deputy Director of Sanitary Service.
Deputy Director of Laboratory Service. (Not filled.)
4 Senior Medical Officers. (One post not filled.)
3 Senior Health Officers. (One post not filled.)
1 Sleeping Sickness Officer.
41 Medical Officers. (Two posts not filled, four paid from Loan funds.)
1 Senior Dental Surgeon.
1 Dental Surgeon.
1 Assistant Bacteriologist.
1 Analytical Chemist.
1 Matron.
3 Senior Nursing Sisters.
2 Senior Health Visitors. (One post not filled.)
6 Health Visitors.
26 Nursing Sisters.
1 Laboratory Assistant.
1 Chief Clerk.
2 European Clerks.
1 Storekeeper.
2 Assistant Storekeepers.
1 Medical Instructor.
1 Assistant Medical Instructor.
1 Superintendent, Mental Hospital. (Post not filled.)
1 Matron, Mental Hospital. (Post not filled.)
1 Senior Sanitary Superintendent.
20 Sanitary Superintendents. (Two paid from Loan funds.)
1 Dental Mechanic.
6 Agricultural Surveyors.

*Asian:*

1 Assistant Surgeon.
3 Senior Sub-Assistant Surgeons.
51 Sub-Assistant Surgeons. (One paid from Loan funds.)
28 Compounders. (One post not filled.)
1 Special Grade Clerk.
1 1st Grade Clerk.
6 2nd Grade Clerks.
12 3rd Grade Clerks.
1 4th Grade Clerk.

*African:*

12 Clerks.
96 Dispensers.
140 Sanitary Inspectors.
2 Vaccinators.
Hospital Orderlies, Nurses and Menials: average number employed 760.
Sanitary Labourers: average number employed 1,100.
10 Motor Drivers.

## APPOINTMENTS.

*European:*

Nursing Sisters:
Miss D. M. Essam from 12th January.
Miss O. J. Steer from 9th March.
Miss A. R. Lamb from 29th June.

Analytical Chemist:
Mr. W. D. Raymond from 10th December, 1933.

Junior Medical Specialist:
Dr. C. F. Shelton, Medical Officer, from 1st January.

## ACTING APPOINTMENTS.

*European:*

| | |
|---|---|
| Senior Dental Surgeon ... ... ... ... | A. S. Newton from 1st January to 13th July. |
| Deputy Director of Laboratory Service ... | D. A. Skan from 6th May to 31st December. |
| Deputy Director of Sanitary Service ... ... | R. Nixon from 6th May to 31st December. |
| Senior Health Officer ... ... ... ... | W. J. Aitken from 6th May to 31st December. |
| Director of Medical and Sanitary Services ... | R. R. Scott from 19th November to 31st December. |
| Superintendent, Mental Hospital ... ... | J. H. Stafford from 1st January to 31st December. |
| Senior Medical Officer ... ... ... ... | F. R. Lockhart from 1st January to 31st December. |
| Matron ... ... ... ... ... ... | B. G. Allardes from 1st January to 31st December. |

*Asian:*

| | |
|---|---|
| European Clerk ... ... ... ... ... | J. de Souza from 15th June to 31st December. |

## PROMOTIONS.

Drs. W. Hood-Dye and A. R. Lester were promoted to be Senior Medical Officers, Uganda, as from 18th November and 26th November, 1934, respectively.

## RETIREMENTS.

*European:*

Dr. C. R. Steel, Medical Officer, 30th January.
Miss F. M. Plant, Matron, 3rd March.
Mr. W. H. Jones, Assistant Storekeeper, 12th October.

## TRANSFERS, RESIGNATIONS, APPOINTMENTS TERMINATED, RETRENCHMENTS, INVALIDINGS.

Nil.

## DEATHS.—*European:*

Miss F. M. Plant, late Matron, on pension.

## TABLE SHOWING FINANCIAL DETAILS.

*From 1st January to 31st December, 1934.*

DETAILS OF EXPENDITURE.

| | Approved Estimates. | Actual Expenditure. |
|---|---|---|
| *Expenditure:* | £ | £ |
| Personal Emoluments ... ... ... ... | 120,824 | 120,820 |
| *Other Charges:* | | |
| Upkeep of Hospitals ... ... ... ... | 13,000 | 10,432 |
| Upkeep of Quarantine and Infectious Diseases Hospitals... ... ... ... ... ... | 500 | 465 |
| Tuberculosis Scheme (Kilimanjaro) ... ... | 800 | 786 |
| Upkeep of Laboratory, Dar es Salaam ... ... | 90 | 47 |
| Upkeep of Lymph Laboratory, Mpwapwa ... | 180 | 159 |
| Maintenance of Leprosy Patients ... ... | 3,300 | 2,590 |
| Maintenance of Mental Patients and Hospitals | 1,500 | 1,400 |
| Epidemic Outbreaks and Special Sanitary Measures ... ... ... ... ... | 200 | 227 |
| Sleeping Sickness Measures ... ... ... | 7,500 | 4,239 |
| Venereal Diseases and Yaws ... ... ... | 50 | 4 |
| Maternity and Child Welfare ... ... ... | 2,000 | 1,576 |
| Sanitary Labour ... ... ... ... ... | 8,000 | 6,866 |
| Sanitary Equipment ... ... ... ... | 750 | 695 |
| Sanitary Oils and Disinfectants ... ... ... | 350 | 275 |
| Medical and Surgical Stores ... ... ... | 11,000 | 11,408 |
| Equipment and Furniture ... ... ... | 4,000 | 3,917 |
| Microscopes and Accessories ... ... ... | 250 | 340 |
| Vaccines and Serum ... ... ... ... | 250 | 140 |
| Books of Reference ... ... ... ... | 50 | 39 |
| Periodicals ... ... ... ... ... ... | 120 | 110 |
| Electricity ... ... ... ... ... ... | 1,500 | 1,335 |
| Travelling Allowances ... ... ... ... | 100 | 36 |
| Transport Allowances ... ... ... ... | 4,000 | 3,059 |
| Transport ... ... ... ... ... ... | 2,200 | 1,812 |
| Railway Fares and Freight ... ... ... | 4,500 | 5,507 |
| Passages ... ... ... ... ... ... | 5,868 | 5,110 |
| Tents and Camp Equipment ... ... ... | 100 | 87 |
| Uniforms ... ... ... ... ... ... | 625 | 152 |
| Typewriters ... ... ... ... ... | 50 | 34 |
| Allowances to Medical Officers for Dental work | 75 | 48 |
| Fees, etc., of Medical Officers attending Courses of Instruction ... ... ... ... ... | 200 | 149 |
| Medical Attendance outside the Territory ... | 300 | 431 |
| Pauper Burials ... ... ... ... ... | 7 | 4 |
| Upkeep of Quarantine Station, Zanzibar ... | 960 | 825 |
| Upkeep of Motor Boats ... ... ... ... | 300 | 257 |
| Upkeep and Maintenance of Motor Vehicles ... | 550 | 574 |
| Stationery ... ... ... ... ... ... | 275 | 182 |
| Mass Treatment of Ankylostomiasis ... ... | 25 | — |
| Bicycles ... ... ... ... ... ... | 35 | 32 |
| Contingencies ... ... ... ... ... | 120 | 51 |
| Outfit Allowances ... ... ... ... ... | — | 90 |

| | Approved Estimates. £ | Actual Expenditure. £ |
|---|---|---|
| *Contributions, etc.:* | | |
| Quinine for Public Purchase at Post Offices ... | 1,100 | 1,097 |
| Contribution to Colonial Medical Fund... ... | 150 | 150 |
| Contribution to Bureau of Hygiene and Tropical Diseases ... ... ... ... ... ... | 200 | 200 |
| Contribution to Tropical Diseases Hospital ... | 20 | 20 |
| Contribution to International Office of Public Health ... ... ... ... ... ... | 30 | — |
| Total Other Charges ... | 77,180 | 66,957 |
| Personal Emoluments ... | 120,824 | 120,820 |
| Total ... | £198,004 | £187,777 |

Details of Revenue.

| | £ |
|---|---|
| *Revenue:* | |
| From Hospital Fees, Sale of Drugs, etc. ... ... ... ... | 9,099 |
| Fees collected by Marine and Customs Departments for Bills of Health ... ... ... ... ... ... ... ... | 1,229 |
| Sale of Vaccine Lymph, etc. (Laboratory) ... ... ... | 104 |
| Fees for Mechanical Dental work ... ... ... ... ... | 213 |
| Total ... | £10,645 |
| Reimbursement by Tanganyika Railways for Medical Service ... | 3,198 |
| Total ... | £13,843 |

## RAINFALL.

Total rainfall in millimetres by stations from information kindly furnished by the Officer in Charge, British East African Meteorological Service, Tabora.

*1934.*

| DISTRICTS | Stations | Feet above sea level | Rainfall in Millimetres |
|---|---|---|---|
| CENTRAL LINE AREA: | | | |
| Dar es Salaam ... ... | Dar es Salaam ... | 30 | 1114·2 |
| Morogoro ... ... ... | Morogoro ... ... | 1,628 | 721·4 |
| | Kilosa ... ... | 1,606 | 951·3 |
| Dodoma ... ... ... | Dodoma ... ... | 3,675 | 539·9 |
| | Manyoni ... ... | 4,096 | 483·5 |
| | Singida ... ... | 5,233 | 580·4 |
| | Mpwapwa ... ... | 3,700 | 779·8 |
| Tabora ... ... ... | Tabora ... ... | 4,150 | 904·6 |
| | Kahama ... ... | 4,000 | 803·9 |
| | Nzega ... ... | 4,000 | 605·9 |
| Kigoma ... ... ... | Kigoma ... ... | 2,562 | 760·3 |
| | Kasulu ... ... | 4,530 | 1186·8 |
| | Kibondo ... ... | 4,980 | 1072·3 |
| COASTAL AREA, SOUTH: | | | |
| Lindi ... ... ... | Lindi ... ... | S.L. | 1024·0 |
| | Tunduru ... ... | 2,300 | 1040·2 |
| | Masasi Mission ... | 1,500 | 1118·1 |
| | Mikindani ... ... | 60 | 1468·0 |
| Kilwa ... ... ... | Kilwa ... ... | S.L. | 1047·9 |
| | Liwale ... ... | 1,500 | 1192·3 |
| Rufiji ... ... ... | Utete ... ... | 170 | 995·4 |
| COASTAL AREA, NORTH: | | | |
| Tanga ... ... ... | Tanga ... ... | S.L. | 1146·1 |
| | Amani ... ... | 2,834 | 1694·6 |
| NORTHERN HINTERLAND: | | | |
| Moshi ... ... ... | Moshi ... ... | 2,649 | 688·5 |
| Arusha ... ... ... | Arusha ... ... | 4,416 | 1047·1 |
| | Mbulu ... ... | 5,715 | 568·8 |
| Mwanza ... ... ... | Mwanza ... ... | 3,709 | 865·8 |
| | Musoma ... ... | 3,760 | 441·2 |
| Bukoba ... ... ... | Bukoba ... ... | 3,726 | 1884·2 |
| | Biharamulo ... | 4,850 | 1046·8 |
| Kondoa ... ... ... | Kondoa-Irangi ... | 4,615 | 572·8 |
| | Mkalama ... ... | 4,235 | 649·7 |
| SOUTHERN HINTERLAND: | | | |
| Iringa ... ... ... | Iringa ... ... | 5,365 | 841·3 |
| | Njombe ... ... | 6,400 | 1200·3 |
| Ufipa ... ... ... | Sumbawanga ... | 5,650 | 723·0 |
| | Rungwe ... ... | 2,900 | 522·6 |
| Mbeya ... ... ... | Mbeya ... ... | 5,955 | 912·7 |
| Rungwe ... ... ... | Tukuyu ... ... | 5,300 | 2876·7 |
| Songea ... ... ... | Songea ... ... | 3,826 | 1467·0 |

## Return of Diseases and Deaths (In-Patients) and of Diseases (Out-Patients) for the year 1934.

### All Races.

| DISEASES | In-Patients | | | | | Out-Patients | | | Total Cases In- and Out-Patients |
|---|---|---|---|---|---|---|---|---|---|
| | Remaining in Hospitals at end of 1933 | Yearly Total: Admissions | Yearly Total: Deaths | Total Cases Treated | Remaining in Hospitals at end of 1934 | Males | Females | Total | |
| **I.—Infectious and Parasitic Diseases.** | | | | | | | | | |
| 1. Typhoid fever | 5 | 53 | 13 | 58 | 4 | 6 | 2 | 8 | 66 |
| 2. Paratyphoid fevers: | | | | | | | | | |
| (a) Paratyphoid A | ... | 16 | ... | 16 | ... | ... | ... | ... | 16 |
| (b) Paratyphoid B | ... | 1 | ... | 1 | ... | ... | ... | ... | 1 |
| 3. Typhus fever | ... | 75 | ... | 75 | 2 | ... | ... | ... | 75 |
| 4. Relapsing fever | 6 | 474 | 5 | 480 | 8 | 614 | 226 | 840 | 1,320 |
| 5. Undulant fever | ... | 1 | ... | 1 | ... | 1 | ... | 1 | 2 |
| 6. Smallpox | ... | 2 | ... | 2 | ... | 27 | 16 | 43 | 45 |
| 7. Measles | 2 | 71 | ... | 73 | ... | 249 | 109 | 358 | 431 |
| 8. Scarlet fever | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| 9. Whooping cough | 2 | 8 | ... | 10 | ... | 293 | 240 | 533 | 543 |
| 10. Diphtheria | ... | 5 | ... | 5 | ... | 1 | ... | 1 | 6 |
| 11. Influenza | 12 | 869 | 15 | 881 | 10 | 2,511 | 820 | 3,331 | 4,212 |
| 12. Cholera | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| 13. Dysentery: | | | | | | | | | |
| (a) Amœbic | 4 | 239 | 20 | 243 | 7 | 342 | 178 | 520 | 763 |
| (b) Bacillary | ... | 50 | 7 | 50 | 1 | 58 | 31 | 89 | 139 |
| (c) Other or unspecified | 1 | 99 | 4 | 100 | 3 | 378 | 168 | 546 | 646 |
| 14. Plague: | | | | | | | | | |
| (a) Bubonic | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| (b) Pneumonic | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| (c) Septicæmic | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| (d) Not otherwise defined | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| 15. Erysipelas | 1 | 10 | ... | 11 | ... | 9 | 5 | 14 | 25 |
| 16. Acute poliomyelitis | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| 17. Encephalitis lethargica | ... | ... | ... | ... | ... | ... | 1 | 1 | 1 |
| 18. Cerebro-spinal fever | 1 | 11 | 7 | 12 | ... | 1 | ... | 1 | 13 |
| 19. Glanders | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| 20. Anthrax | 1 | 24 | 3 | 25 | 1 | 12 | 6 | 18 | 43 |
| 21. Rabies | ... | 1 | ... | 1 | ... | ... | ... | ... | 1 |
| 22. Tetanus | 1 | 31 | 15 | 32 | ... | 2 | ... | 2 | 34 |
| 23. Tuberculosis of the respiratory system | 55 | 454 | 79 | 509 | 51 | 361 | 107 | 468 | 977 |
| 24. Tuberculosis of the central nervous system | ... | 9 | 4 | 9 | 2 | ... | ... | ... | 9 |

## Diseases and Deaths (All Races)—*contd.*

| DISEASES | In-Patients | | | | | Out-Patients | | | Total Cases In- and Out-Patients |
|---|---|---|---|---|---|---|---|---|---|
| | Remaining in Hospitals at end of 1933 | Yearly Total: Admissions | Yearly Total: Deaths | Total Cases Treated | Remaining in Hospitals at end of 1934 | Males | Females | Total | |
| 25. Tuberculosis of intestines and peritoneum | ... | 6 | 4 | 6 | ... | ... | 1 | 1 | 7 |
| 26. Tuberculosis of vertebral column | 3 | 27 | 2 | 30 | 6 | 4 | ... | 4 | 34 |
| 27. Tuberculosis of other bones and joints | 6 | 21 | 2 | 27 | 2 | 19 | 9 | 28 | 55 |
| 28. Tuberculosis of skin and subcutaneous tissues | ... | 4 | ... | 4 | ... | 3 | ... | 3 | 7 |
| 29. Tuberculosis of lymphatic system (abdominal and bronchial glands excepted) | 10 | 28 | 1 | 38 | 5 | 57 | 31 | 88 | 126 |
| 30. Tuberculosis of genito-urinary system | 1 | 4 | ... | 5 | ... | 1 | ... | 1 | 6 |
| 31. Tuberculosis of other organs | 8 | 18 | ... | 26 | 4 | 13 | 16 | 29 | 55 |
| 32. Disseminated tuberculosis: | | | | | | | | | |
| (a) Acute | ... | 6 | ... | 6 | ... | 5 | ... | 5 | 11 |
| (b) Chronic | ... | ... | ... | ... | ... | 2 | ... | 2 | 2 |
| (c) Not distinguished as acute or chronic | 1 | 2 | 2 | 3 | ... | ... | ... | ... | 3 |
| 33. Leprosy | 67 | 129 | 10 | 196 | 56 | 269 | 111 | 380 | 576 |
| 34. Syphilis: | | | | | | | | | |
| (a) Congenital | 4 | 65 | 7 | 69 | 1 | 654 | 583 | 1,237 | 1,306 |
| (b) Acquired | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| 1. Primary | 22 | 407 | 2 | 429 | 22 | 5,857 | 4,348 | 10,205 | 10,634 |
| 2. Secondary | 17 | 379 | 2 | 396 | 27 | 2,157 | 1,487 | 3,644 | 4,040 |
| 3. Tertiary | 15 | 187 | 12 | 202 | 10 | 3,362 | 3,361 | 6,723 | 6,925 |
| 4. Unspecified | 2 | 12 | ... | 14 | 2 | 1,113 | 859 | 1,972 | 1,986 |
| 35. Other venereal diseases: | | | | | | | | | |
| 1. Gonorrhœal or purulent ophthalmia | 2 | 40 | ... | 42 | 1 | 78 | 36 | 114 | 156 |
| 2. Other diseases included under 35: | 2 | 116 | 3 | 118 | 5 | 397 | 41 | 438 | 556 |
| Gonorrhœa | 20 | 656 | 5 | 676 | 38 | 7,659 | 1,027 | 8,686 | 9,362 |
| Soft Chancre | ... | 17 | ... | 17 | ... | 54 | 3 | 57 | 74 |
| 36. Purulent infection, septicæmia: | | | | | | | | | |
| (a) Septicæmia | 1 | 12 | 5 | 13 | ... | 2 | 1 | 3 | 16 |
| (b) Pyæmia | ... | 9 | 1 | 9 | 1 | 13 | 6 | 19 | 28 |
| (c) Gas gangrene | ... | 1 | ... | 1 | ... | ... | ... | ... | 1 |
| 37. Yellow fever | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| 38. Malaria: | | | | | | | | | |
| Tertian | 1 | 94 | 4 | 95 | 1 | 213 | 70 | 283 | 378 |
| Quartan | ... | 17 | ... | 17 | ... | 3 | 1 | 4 | 21 |
| Subtertian | 43 | 3,781 | 41 | 3,824 | 46 | 17,115 | 6,373 | 23,488 | 27,312 |
| Cachexia | 1 | 58 | 2 | 59 | 1 | 972 | 490 | 1,462 | 1,521 |
| Cerebral | ... | 11 | 5 | 11 | ... | ... | ... | ... | 11 |
| Unspecified | 3 | 354 | 4 | 357 | 8 | 8,883 | 3,280 | 12,163 | 12,520 |

| DISEASES | In-Patients | | | | | Out-Patients | | | Total Cases In- and Out-Patients |
|---|---|---|---|---|---|---|---|---|---|
| | Remaining in Hospitals at end of 1933 | Yearly Total: Admissions | Yearly Total: Deaths | Total Cases Treated | Remaining in Hospitals at end of 1934 | Males | Females | Total | |
| 39. Other diseases due to protozoa: | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| Leishmaniasis | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| Kala-azar | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| Rat-bite fever | ... | 2 | ... | 2 | ... | 3 | 1 | 4 | 6 |
| Spirochætosis ictero-hæmorrhagica | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| Trypanosomiasis | 30 | 134 | 14 | 164 | 15 | 15 | ... | 15 | 179 |
| Yaws | 117 | 1,855 | 8 | 1,972 | 65 | 43,220 | 36,716 | 79,936 | 81,908 |
| 40. Ankylostomiasis | 80 | 1,571 | 155 | 1,651 | 76 | 7,191 | 4,257 | 11,448 | 13,099 |
| 41. Hydatid cysts | ... | 3 | 1 | 3 | ... | ... | 1 | 1 | 4 |
| 42. Other diseases due to helminths: | 2 | 78 | ... | 80 | ... | ... | ... | ... | 80 |
| Cestodes (Tæniasis) | 6 | 210 | 1 | 216 | 2 | 10,772 | 3,302 | 14,074 | 14,290 |
| Nematodes (not including Ankylostoma): | ... | 4 | ... | 4 | ... | 389 | 242 | 631 | 635 |
| Ascariasis | 4 | 82 | 1 | 86 | 4 | 4,161 | 3,708 | 7,869 | 7,955 |
| Dracontiasis (guinea worm) | ... | 2 | ... | 2 | ... | ... | ... | ... | 2 |
| Filarial elephantiasis | 14 | 196 | 1 | 210 | 20 | 139 | 30 | 169 | 379 |
| Filariasis | 3 | 17 | ... | 20 | 1 | 39 | 13 | 52 | 72 |
| Oxyuris vermicularis | ... | ... | ... | ... | ... | 76 | 37 | 113 | 113 |
| Trichiniasis | ... | ... | ... | ... | ... | 66 | 8 | 74 | 74 |
| Tricocephalus dispar | ... | ... | ... | ... | ... | 4 | 6 | 10 | 10 |
| Trematodes: | ... | 1 | ... | 1 | ... | 1 | ... | 1 | 2 |
| Schistosomiasis | 16 | 460 | 15 | 476 | 22 | 2,956 | 539 | 3,495 | 3,971 |
| 43. Mycoses: | | | | | | | | | |
| 1. Actinomycosis | ... | 1 | ... | 1 | ... | 1 | ... | 1 | 2 |
| 2. Other mycoses | ... | 13 | ... | 13 | ... | 179 | 48 | 227 | 240 |
| 44. Other infectious or parasitic diseases: | | | | | | | | | |
| 1. Vaccinia | ... | 11 | ... | 11 | ... | 86 | 43 | 129 | 140 |
| 2. Other sequelæ of vaccination (infective) | ... | 5 | ... | 5 | ... | 297 | 187 | 484 | 489 |
| 3. German measles | ... | 22 | ... | 22 | ... | 6 | 5 | 11 | 33 |
| 4. Varicella (Chickenpox) | 19 | 293 | 1 | 312 | ... | 280 | 56 | 336 | 648 |
| 5. Mumps | ... | 23 | 1 | 23 | ... | 130 | 54 | 184 | 207 |
| 6. Other diseases included under 44: | ... | 1 | ... | 1 | ... | 5 | 2 | 7 | 8 |
| Blackwater fever | ... | 53 | 15 | 53 | ... | 5 | 1 | 6 | 59 |
| Dengue | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| Sandfly fever (Phlebotomus or Pappataci fever) | ... | ... | ... | ... | ... | ... | ... | ... | ... |

| DISEASES | In-Patients | | | | | Out-Patients | | | Total Cases In- and Out-Patients |
|---|---|---|---|---|---|---|---|---|---|
| | Remaining in Hospitals at end of 1933 | Yearly Total: Admissions | Yearly Total: Deaths | Total Cases Treated | Remaining in Hospitals at end of 1934 | Males | Females | Total | |
| **II.—Cancer and Other Tumours.** | | | | | | | | | |
| 45-53. Malignant tumours: | | | | | | | | | |
| 45. Cancer of the buccal cavity and pharynx | ... | 20 | 5 | 20 | 1 | 3 | ... | 3 | 23 |
| 46. Cancer of the digestive organs and peritoneum | 3 | 32 | 21 | 35 | 1 | 10 | 5 | 15 | 50 |
| 47. Cancer of the respiratory organs | ... | 1 | 1 | 1 | ... | ... | ... | ... | 1 |
| 48. Cancer of the uterus | 1 | 4 | 2 | 5 | ... | ... | ... | ... | 5 |
| 49. Cancer of other female genital organs | ... | 5 | 3 | 5 | ... | ... | ... | ... | 5 |
| 50. Cancer of the breast | ... | 3 | ... | 3 | ... | ... | 1 | 1 | 4 |
| 51. Cancer of the male genito-urinary organs | ... | 12 | 3 | 12 | 1 | 2 | ... | 2 | 14 |
| 52. Cancer of the skin | 1 | 8 | ... | 9 | ... | 1 | 1 | 2 | 11 |
| 53. Cancer of other or unspecified organs | ... | 30 | 5 | 30 | ... | 3 | 1 | 4 | 34 |
| 54. Non-malignant tumours: | | | | | | | | | |
| (a) Female genital organs | 7 | 57 | 3 | 64 | 3 | ... | 6 | 6 | 70 |
| (b) Other sites | 4 | 101 | 3 | 105 | 1 | 38 | 8 | 46 | 151 |
| 55. Tumours of undetermined nature: | | | | | | | | | |
| (a) Female genital organs | ... | 9 | 3 | 9 | ... | ... | 1 | 1 | 10 |
| (b) Other sites | 2 | 26 | ... | 28 | ... | 11 | 5 | 16 | 44 |
| **III.—Rheumatism, Diseases of Nutrition and of Endocrine Glands and Other General Diseases.** | | | | | | | | | |
| 56. Rheumatic fever | 2 | 36 | 2 | 38 | 2 | 156 | 63 | 219 | 257 |
| 57. Chronic rheumatism, Osteo-arthritis | 9 | 211 | 2 | 220 | 5 | 3,162 | 1,336 | 4,498 | 4,718 |
| 58. Gout | ... | 4 | ... | 4 | ... | 75 | 49 | 124 | 128 |
| 59. Diabetes (not including Insipidus) | ... | 19 | 3 | 19 | ... | 16 | 2 | 18 | 37 |
| 60. Scurvy | ... | 58 | 3 | 58 | 7 | 27 | 1 | 28 | 86 |
| 61. Beri-beri | ... | 15 | 1 | 15 | 2 | 13 | ... | 13 | 28 |
| 62. Pellagra | ... | 2 | ... | 2 | 1 | 6 | 3 | 9 | 11 |
| 63. Rickets | ... | 6 | 2 | 6 | ... | 71 | 41 | 112 | 118 |
| 64. Osteomalacia | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| 65. Diseases of the pituitary gland | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| 66. Diseases of the thyroid and parathyroid glands: | | | | | | | | | |
| (a) Simple goitre | 1 | 4 | ... | 5 | ... | ... | 4 | 4 | 9 |
| (b) Exophthalmic goitre | ... | ... | ... | ... | ... | ... | 1 | 1 | 1 |
| (c) Myxœdema, Cretinism | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| (d) Tetany | 1 | ... | ... | 1 | ... | ... | ... | ... | 1 |
| (e) Other diseases of the thyroid or parathyroid glands | ... | ... | ... | ... | ... | ... | 1 | 1 | 1 |
| 67. Diseases of the thymus | ... | 1 | ... | 1 | ... | ... | ... | ... | 1 |

| DISEASES | In-Patients | | | | | Out-Patients | | | Total Cases In- and Out-Patients |
|---|---|---|---|---|---|---|---|---|---|
| | Remaining in Hospital at end of 1933 | Yearly Total: Admissions | Yearly Total: Deaths | Total Cases Treated | Remaining in Hospitals at end of 1934 | Males | Females | Total | |
| 68. Diseases of the adrenals (non-tuberculous) | ... | ... | ... | ... | ... | ... | 1 | 1 | 1 |
| 69. Other general diseases: | | | | | | | | | |
| 1. Amyloid disease of unstated origin | ... | ... | ... | ... | ... | 1 | 2 | 3 | 3 |
| 2. Other diseases included under 69 | 2 | 56 | 3 | 58 | 1 | 107 | 44 | 151 | 209 |
| **IV.—Diseases of the Blood and Blood-Forming Organs.** | | | | | | | | | |
| 70. Hæmorrhagic conditions: | | | | | | | | | |
| (a) Purpura | ... | 3 | 1 | 3 | ... | 4 | 2 | 6 | 9 |
| (b) Hæmophillia | 1 | 2 | ... | 3 | ... | ... | ... | ... | 3 |
| 71. Anæmia, chlorosis: | | | | | | | | | |
| (a) Pernicious anæmia | ... | 21 | ... | 21 | ... | 69 | 34 | 103 | 124 |
| (b) Other anæmias and chlorosis | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| 1. Splenic anæmias | ... | 14 | 3 | 14 | 1 | 59 | 40 | 99 | 113 |
| 2. Other diseases included under 71 (b) | | 84 | 6 | 87 | 5 | 1,101 | 683 | 1,784 | 1,871 |
| 72. Leukæmia, Aleukæmia: | | | | | | | | | |
| (a) Leukæmia | 1 | 2 | 1 | 3 | ... | 1 | ... | 1 | 4 |
| (b) Aleukæmia (Lymphadenoma) | 1 | 2 | 1 | 3 | ... | ... | ... | ... | 3 |
| 73. Diseases of the spleen: | | | | | | | | | |
| 1. Banti's disease | 2 | 2 | ... | 4 | ... | 31 | 2 | 33 | 37 |
| 2. Other diseases of the spleen | 1 | 48 | 4 | 49 | 2 | 1,189 | 656 | 1,845 | 1,894 |
| 74. Other diseases of the blood and blood-forming organs | ... | 1 | ... | 1 | ... | 3 | 2 | 5 | 6 |
| **V.—Chronic Poisoning.** | | | | | | | | | |
| 75. Alcoholism (acute or chronic) | ... | 5 | ... | 5 | ... | 1 | ... | 1 | 6 |
| 76. Chronic poisoning by other organic substances | ... | 3 | ... | 3 | ... | ... | ... | ... | 3 |
| 77. Chronic poisoning by mineral substances | ... | ... | ... | ... | ... | 49 | 27 | 76 | 76 |
| **VI.—Diseases of the Nervous and Sense Organs.** | | | | | | | | | |
| 78. Encephalitis (not including Lethargica: *see* 17): | | | | | | | | | |
| (a) Cerebral abscess | ... | 4 | 3 | 4 | ... | ... | ... | ... | 4 |
| (b) Other diseases included under 78 | ... | 8 | 1 | 8 | 1 | 1 | ... | 1 | 9 |
| 79. Meningitis | ... | 24 | 15 | 24 | ... | 1 | ... | 1 | 25 |
| 80. Tabes dorsalis (Locomotor ataxy) | ... | 9 | 2 | 9 | ... | 2 | ... | 2 | 11 |

## Diseases and Deaths (All Races)—*contd.*

| DISEASES | In-Patients | | | | | Out-Patients | | | Total Cases In- and Out-Patients |
|---|---|---|---|---|---|---|---|---|---|
| | Remaining in Hospitals at end of 1933 | Yearly Total: Admissions | Yearly Total: Deaths | Total Cases Treated | Remaining in Hospitals at end of 1934 | Males | Females | Total | |
| 81. Other diseases of the spinal cord: | | | | | | | | | |
| 1. Progressive muscular atrophy | ... | 1 | ... | 1 | ... | 1 | ... | 1 | 2 |
| 2. Subacute combined sclerosis | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| 3. Myelitis of unstated origin | 1 | 5 | ... | 6 | ... | ... | 2 | 2 | 8 |
| 4. Other diseases included under 81 | 1 | 2 | 1 | 3 | 1 | 2 | ... | 2 | 5 |
| 82. Cerebral hæmorrhage, Apoplexy, etc.: | | | | | | | | | |
| (a) 1. Cerebral hæmorrhage | ... | 5 | 3 | 5 | ... | ... | ... | ... | 5 |
| 2. Apoplexy (lesion unstated) | ... | 1 | 1 | 1 | ... | ... | ... | ... | 1 |
| (b) 1. Cerebral embolism | ... | ... | ... | ... | ... | 1 | ... | 1 | 1 |
| 2. Cerebral thrombosis | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| 3. Cerebral softening | ... | 1 | ... | 1 | ... | ... | ... | ... | 1 |
| (c) 1. Hemiplegia | 1 | 31 | 15 | 32 | 4 | 21 | 4 | 25 | 57 |
| 2. Other paralyses of unstated origin | 7 | 84 | 5 | 91 | 7 | 34 | 5 | 39 | 130 |
| 83. General paralysis of the insane | ... | 6 | ... | 6 | ... | 2 | ... | 2 | 8 |
| 84. Other forms of insanity | ... | 37 | 6 | 37 | 2 | 18 | 7 | 25 | 62 |
| 85. Epilepsy | 3 | 113 | 4 | 116 | 6 | 193 | 47 | 240 | 356 |
| 86. Infantile convulsions (under 5 years of age) | ... | 9 | 3 | 9 | ... | 4 | 2 | 6 | 15 |
| 87. Other diseases of the nervous system: | | | | | | | | | |
| (a) Chorea | ... | 1 | ... | 1 | ... | 165 | 44 | 209 | 210 |
| (b) Neuritis, neuralgia | 3 | 158 | ... | 161 | 6 | 5,272 | 2,023 | 7,295 | 7,456 |
| (c) Paralysis agitans | ... | 11 | ... | 11 | ... | 60 | 18 | 78 | 89 |
| (d) Disseminated sclerosis | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| (e) Other diseases included under 87 | 3 | 67 | 1 | 70 | 3 | 615 | 174 | 789 | 859 |
| 88. Diseases of the eye and annexa: | | | | | | | | | |
| Blepharitis | ... | 28 | ... | 28 | 1 | 553 | 449 | 1,002 | 1,030 |
| Cataract (all forms) | 9 | 103 | ... | 112 | 9 | 116 | 68 | 184 | 296 |
| Conjunctivitis | 14 | 424 | ... | 438 | 11 | 14,660 | 10,968 | 25,628 | 26,066 |
| Glaucoma | 1 | 5 | ... | 6 | ... | 16 | 7 | 23 | 29 |
| Iritis | 4 | 63 | ... | 67 | 2 | 387 | 171 | 558 | 625 |
| Keratitis | 4 | 58 | ... | 62 | 1 | 167 | 61 | 228 | 290 |
| Ophthalmia (not including Neonatorum: *see* 35 (1)) | 2 | 57 | ... | 59 | 2 | 128 | 49 | 177 | 236 |
| Optic Neuritis | ... | 16 | ... | 16 | 2 | 11 | 4 | 15 | 31 |
| Trachoma | 6 | 117 | 1 | 123 | 4 | 464 | 321 | 785 | 908 |
| Other diseases of the eye | 1 | 22 | ... | 23 | 1 | 608 | 167 | 775 | 798 |
| 89. Diseases of the ear and of the mastoid sinus: | | | | | | | | | |
| (a) Otitis and other diseases of the ear | 3 | 111 | ... | 114 | 5 | 5,913 | 2,947 | 8,860 | 8,974 |
| (b) Diseases of the mastoid sinus | 1 | 21 | 1 | 22 | 1 | 237 | 118 | 405 | 427 |

| DISEASES | In-Patients | | | | | Out-Patients | | | Total Cases In- and Out-Patients |
|---|---|---|---|---|---|---|---|---|---|
| | Remaining in Hospitals at end of 1933 | Yearly Total: Admissions | Yearly Total: Deaths | Total Cases Treated | Remaining in Hospitals at end of 1934 | Males | Females | Total | |
| **VII.—Diseases of the Circulatory System.** | | | | | | | | | |
| 90. Pericarditis | ... | 1 | ... | 1 | 1 | 2 | ... | 2 | 3 |
| 91. Acute endocarditis: | | | | | | | | | |
| 1. Malignant endocarditis | ... | 1 | 1 | 1 | ... | ... | ... | ... | 1 |
| 2. Other acute endocarditis | ... | 6 | 3 | 6 | ... | ... | ... | ... | 6 |
| 92. Chronic endocarditis, Valvular disease: | | | | | | | | | |
| 1. Aortic valve disease | ... | 2 | ... | 2 | ... | 5 | 4 | 9 | 11 |
| 2. Mitral valve disease | 2 | 21 | 5 | 23 | ... | 19 | 5 | 24 | 47 |
| 3. Aortic and mitral valve disease | ... | 1 | 1 | 1 | ... | 1 | 1 | 2 | 3 |
| 4. Endocarditis not returned as acute or chronic | ... | 4 | 2 | 4 | ... | 4 | 2 | 6 | 10 |
| 5. Other or unspecified valve diseases | ... | 20 | 3 | 20 | 3 | 19 | 5 | 24 | 44 |
| 93. Diseases of the myocardium: | | | | | | | | | |
| (a) Acute myocarditis | ... | 6 | 4 | 6 | ... | 1 | ... | 1 | 7 |
| (b) Myocardial degeneration: | | | | | | | | | |
| 1. Fatty heart | ... | ... | ... | ... | ... | 1 | ... | 1 | 1 |
| 2. Cardiovascular degeneration | ... | 1 | ... | 1 | ... | ... | ... | ... | 1 |
| 3. Other diseases included under 93 (b) | ... | 4 | 1 | 4 | ... | 20 | 5 | 25 | 29 |
| (c) Myocarditis not distinguished as acute or chronic | ... | 4 | ... | 4 | ... | 2 | ... | 2 | 6 |
| 94. Diseases of the coronary arteries, Angina pectoris | ... | 1 | ... | 1 | ... | 4 | 5 | 9 | 10 |
| 95. Other diseases of the heart: | | | | | | | | | |
| (a) Disordered action of heart | ... | 16 | 1 | 16 | ... | 97 | 64 | 161 | 177 |
| (b) Other diseases included under 95 | 1 | 13 | 2 | 14 | ... | 91 | 52 | 143 | 157 |
| 96. Aneurysm | ... | 4 | ... | 4 | ... | ... | ... | ... | 4 |
| 97. Arterio-sclerosis | ... | 1 | 1 | 1 | ... | 4 | ... | 4 | 5 |
| 98. Gangrene | 1 | 48 | 15 | 49 | 3 | 6 | 9 | 15 | 64 |
| 99. Other diseases of the arteries | ... | 1 | 1 | 1 | ... | 1 | 1 | 2 | 3 |
| 100. Diseases of the veins (varix, hæmorrhoids, phlebitis, etc.): | | | | | | | | | |
| 1. Varix— | | | | | | | | | |
| Hæmorrhoids | ... | 46 | ... | 46 | ... | 120 | 20 | 140 | 186 |
| Varicocele | ... | 1 | ... | 1 | ... | 4 | ... | 4 | 5 |
| Varicose veins | ... | 6 | ... | 6 | ... | 31 | 2 | 33 | 39 |
| 2. Other diseases of the veins— | | | | | | | | | |
| Phlebitis | ... | 12 | ... | 12 | ... | 13 | 4 | 17 | 29 |

| DISEASES | In-Patients | | | | | Out-Patients | | | Total Cases In- and Out-Patients |
|---|---|---|---|---|---|---|---|---|---|
| | Remaining in Hospitals at end of 1933 | Yearly Total: Admissions | Yearly Total: Deaths | Total Cases Treated | Remaining in Hospitals at end of 1934 | Males | Females | Total | |
| 101. Diseases of the lymphatic system (Lymphangitis, etc.): | | | | | | | | | |
| Lymphadenitis | 5 | 145 | 2 | 150 | 3 | 822 | 206 | 1,028 | 1,178 |
| Lymphangitis | ... | 27 | ... | 27 | 1 | 131 | 36 | 167 | 194 |
| 102. Abnormalities of blood pressure | ... | ... | ... | ... | ... | 2 | 2 | 4 | 4 |
| 103. Other diseases of the circulatory system | ... | 11 | 1 | 11 | ... | 21 | 5 | 26 | 37 |
| **VIII.—Diseases of the Respiratory System.** | | | | | | | | | |
| 104. Diseases of the nasal fossæ and annexa: | | | | | | | | | |
| 1. Diseases of the nose | ... | 153 | ... | 153 | 2 | 6,095 | 1,747 | 7,842 | 7,995 |
| 2. Diseases of the accessory nasal sinuses | 1 | 16 | 1 | 17 | ... | 227 | 96 | 323 | 340 |
| 105. Diseases of the larynx | 1 | 20 | 1 | 21 | ... | 252 | 104 | 356 | 377 |
| 106. Bronchitis: | | | | | | | | | |
| (a) Acute bronchitis | 6 | 394 | 3 | 400 | 3 | 16,075 | 7,663 | 23,738 | 24,138 |
| (b) Chronic bronchitis | 3 | 203 | 6 | 206 | 4 | 3,199 | 1,862 | 5,061 | 5,267 |
| (c) Bronchitis not distinguished as acute or chronic | 2 | 117 | ... | 119 | 2 | 17,308 | 8,173 | 25,481 | 25,600 |
| 107. Broncho-pneumonia | 4 | 241 | 59 | 245 | 1 | 203 | 111 | 314 | 559 |
| 108. Lobar pneumonia | 27 | 750 | 190 | 777 | 25 | 251 | 73 | 324 | 1,101 |
| 109. Pneumonia (not otherwise defined) | 1 | 14 | 5 | 15 | 1 | 19 | 5 | 24 | 39 |
| 110. Pleurisy: | | | | | | | | | |
| 1. Empyema | 1 | 18 | 4 | 19 | 1 | 42 | 10 | 52 | 71 |
| 2. Other pleurisy | 5 | 121 | 6 | 126 | 4 | 253 | 88 | 341 | 467 |
| 111. Congestion and hæmorrhagic infarct of lung, etc. | ... | 33 | ... | 33 | ... | 3 | 3 | 6 | 39 |
| 112. Asthma | 6 | 122 | 1 | 128 | 7 | 712 | 253 | 965 | 1,093 |
| 113. Pulmonary emphysema | ... | 2 | ... | 2 | ... | 3 | ... | 3 | 5 |
| 114. Other diseases of the respiratory system: | | | | | | | | | |
| (a) Chronic interstitial pneumonia, including occupational diseases of the lung | ... | 4 | 2 | 4 | ... | ... | 1 | 1 | 5 |
| (b) Other diseases included under 114 | ... | 30 | 1 | 30 | 3 | 773 | 335 | 1,108 | 1,138 |
| **IX.—Diseases of the Digestive System.** | | | | | | | | | |
| 115. Diseases of the buccal cavity, pharynx, etc.: | | | | | | | | | |
| 1. Diseases of the teeth and gums | 1 | 117 | 3 | 118 | 2 | 10,526 | 5,174 | 15,700 | 15,818 |
| 2. Ludwig's angina | ... | ... | ... | ... | ... | ... | 1 | 1 | 1 |
| 3. Diseases of the tonsils | 2 | 164 | ... | 166 | 2 | 2,678 | 1,272 | 3,950 | 4,116 |
| 4. Other diseases included under 115 | 3 | 151 | 2 | 154 | 6 | 4,255 | 1,508 | 5,763 | 5,917 |
| 116. Diseases of the œsophagus | ... | ... | ... | ... | ... | ... | ... | ... | ... |

| DISEASES | In-Patients | | | | | Out-Patients | | | Total Cases In- and Out-Patients |
|---|---|---|---|---|---|---|---|---|---|
| | Remaining in Hospitals at end of 1933 | Yearly Total: Admissions | Yearly Total: Deaths | Total Cases Treated | Remaining in Hospitals at end of 1934 | Males | Females | Total | |
| 117. Ulcer of the stomach or duodenum: | | | | | | | | | |
| (a) Ulcer of the stomach | ... | 24 | ... | 24 | 2 | 64 | 23 | 87 | 111 |
| (b) Ulcer of the duodenum | ... | 8 | 1 | 8 | ... | 1 | ... | 1 | 9 |
| 118. Other diseases of the stomach: | | | | | | | | | |
| 1. Inflammation of the stomach | ... | 41 | 1 | 41 | ... | 368 | 165 | 533 | 574 |
| 2. Other diseases included under 118 | 2 | 81 | 2 | 83 | 2 | 1,483 | 821 | 2,304 | 2,387 |
| 119 and 120. Diarrhœa and Enteritis: | | | | | | | | | |
| Under two years (a) 1. Colitsi | ... | 27 | 1 | 27 | 1 | 1,903 | 1,028 | 2,931 | 2,958 |
| Under two years (a) 2. Other diarrhœa and enteritis | 1 | 186 | 8 | 187 | 2 | 1,667 | 1,244 | 2,911 | 3,098 |
| Under two years (b) Ulceration of the intestines | ... | 5 | ... | 5 | ... | 60 | 31 | 91 | 96 |
| Over two years (a) 1. Colitis | 4 | 150 | 8 | 154 | ... | 1,297 | 594 | 1,891 | 2,045 |
| Over two years (a) 2. Other diarrhœa and enteritis | 8 | 652 | 40 | 660 | 10 | 4,960 | 2,223 | 7,183 | 7,843 |
| Over two years (b) Ulceration of the intestines | ... | 4 | ... | 4 | ... | 12 | 4 | 16 | 20 |
| 121. Appendicitis | 3 | 64 | 3 | 67 | 3 | 9 | 7 | 16 | 83 |
| 122. Hernia, intestinal obstruction: | | | | | | | | | |
| (a) Hernia— | | | | | | | | | |
| 1. Strangulated hernia | 8 | 64 | 9 | 72 | 6 | 16 | ... | 16 | 88 |
| 2. Hernia not returned as strangulated | 24 | 566 | 6 | 590 | 22 | 152 | 3 | 155 | 745 |
| (b) Intestinal obstruction | 1 | 23 | 15 | 24 | 1 | 4 | 1 | 5 | 29 |
| 123. Other diseases of the intestines: | | | | | | | | | |
| 1. Constipation, intestinal stasis | 2 | 325 | 1 | 327 | 3 | 28,553 | 14,796 | 43,349 | 43,676 |
| 2. Diverticulitis | ... | 12 | ... | 12 | ... | ... | ... | ... | 12 |
| 3. Other diseases included under 123 | 4 | 103 | 3 | 107 | 8 | 886 | 511 | 1,397 | 1,504 |
| 124. Cirrhosis of the liver: | | | | | | | | | |
| (a) Returned as alcoholic | 1 | 4 | 1 | 5 | ... | 4 | ... | 4 | 9 |
| (b) Not returned as alcoholic | 5 | 42 | 19 | 47 | 2 | 12 | 8 | 20 | 67 |
| 125. Other diseases of the liver: | | | | | | | | | |
| 1. Acute yellow atrophy | ... | 2 | 2 | 2 | ... | 24 | 14 | 38 | 40 |
| 2. Other diseases included under 125 | 6 | 135 | 10 | 141 | 4 | 521 | 172 | 693 | 834 |
| 126. Biliary calculi | ... | ... | ... | ... | ... | 4 | 1 | 5 | 5 |
| 127. Other diseases of the gall bladder and ducts: | | | | | | | | | |
| 1. Cholecystitis without record of biliary calculi | ... | 19 | ... | 19 | ... | 14 | 5 | 19 | 38 |
| 2. Other diseases included under 127 | ... | 13 | 1 | 13 | 1 | 26 | 4 | 30 | 43 |
| 128. Diseases of the pancreas | ... | 3 | 2 | 3 | ... | ... | ... | ... | 3 |
| 129. Peritonitis without stated cause | ... | 8 | 7 | 8 | ... | ... | ... | ... | 8 |

| DISEASES | In-Patients | | | | | Out-Patients | | | Total Cases In- and Out-Patients |
|---|---|---|---|---|---|---|---|---|---|
| | Remaining in Hospitals at end of 1933 | Yearly Total: Admissions | Yearly Total: Deaths | Total Cases Treated | Remaining in Hospitals at end of 1934 | Males | Females | Total | |
| **X.—Non-venereal Diseases of the Genito-Urinary System and Annexa.** | | | | | | | | | |
| 130. Acute nephritis | 2 | 29 | 9 | 31 | 3 | 52 | 26 | 78 | 109 |
| 131. Chronic nephritis | 1 | 40 | 10 | 41 | 1 | 21 | 23 | 44 | 85 |
| 132. Nephritis not stated to be acute or chronic | 2 | 13 | 1 | 15 | 1 | 16 | 7 | 23 | 38 |
| 133. Other diseases of the kidney and annexa: | | | | | | | | | |
| (a) Pyelitis | ... | 22 | 1 | 22 | ... | 17 | 13 | 30 | 52 |
| (b) Other diseases included under 133 | ... | 15 | 2 | 15 | 2 | 25 | 15 | 40 | 55 |
| 134. Calculi of the urinary passages: | | | | | | | | | |
| (a) Calculi of kidney and ureter | ... | 8 | ... | 8 | ... | 2 | 3 | 5 | 13 |
| (b) Calculi of the bladder | ... | 13 | ... | 13 | ... | 3 | ... | 3 | 16 |
| (c) Calculi of unstated site | ... | 9 | ... | 9 | ... | ... | ... | ... | 9 |
| 135. Diseases of the bladder: | | | | | | | | | |
| (a) Cystitis | 1 | 77 | 9 | 78 | 8 | 236 | 47 | 283 | 361 |
| (b) Other diseases of the bladder | 1 | 33 | 3 | 34 | 1 | 31 | 6 | 37 | 71 |
| 136. Diseases of the urethra, urinary abscess, etc.: | | | | | | | | | |
| (a) Stricture of the urethra | 23 | 186 | 11 | 209 | 15 | 119 | 5 | 124 | 333 |
| (b) Other diseases of the urethra, etc. | 6 | 203 | 2 | 209 | 13 | 75 | 3 | 78 | 287 |
| 137. Diseases of the prostate | ... | 24 | ... | 24 | 3 | 15 | ... | 15 | 39 |
| 138. Diseases of the male genital organs | 41 | 1,027 | 11 | 1,068 | 39 | 1,126 | ... | 1,126 | 2,194 |
| 139. Diseases of the female genital organs (*see* 48 and 49 and Sec. XI): | | | | | | | | | |
| (a) Diseases of the ovary, fallopian tube and parametrium | 3 | 56 | 2 | 59 | 2 | ... | 101 | 101 | 160 |
| (b) Diseases of the uterus | 3 | 56 | 1 | 59 | ... | ... | 294 | 294 | 353 |
| (c) Diseases of the breast | 1 | 63 | 2 | 64 | 1 | ... | 575 | 575 | 639 |
| (d) Other diseases of the female genital organs | ... | 55 | 2 | 55 | 1 | ... | 158 | 158 | 213 |
| **XI.—Diseases of Pregnancy, Childbirth and the Puerperal State.** | | | | | | | | | |
| 140. Post-abortive sepsis | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| 141. Abortion not returned as septic: | | | | | | | | | |
| 1. Hæmorrhage following abortion | 1 | 46 | 1 | 47 | 1 | ... | 13 | 13 | 60 |
| 2. Without record of hæmorrhage | 1 | 52 | ... | 53 | 1 | ... | 24 | 24 | 77 |
| 142. Ectopic gestation | ... | 7 | ... | 7 | ... | ... | 2 | 2 | 9 |
| 143. Other accidents of pregnancy | ... | 35 | 2 | 35 | 1 | ... | 49 | 49 | 84 |
| 144. Puerperal hæmorrhage: | | | | | | | | | |
| (a) Placenta prævia | ... | 7 | ... | 7 | ... | ... | 1 | 1 | 8 |
| (b) Other puerperal hæmorrhage | ... | 19 | 3 | 19 | ... | ... | 2 | 2 | 21 |

| DISEASES | In-Patients | | | | | Out-Patients | | | Total Cases In- and Out-Patients |
|---|---|---|---|---|---|---|---|---|---|
| | Remaining in Hospitals at end of 1933 | Yearly Total: Admissions | Yearly Total: Deaths | Total Cases Treated | Remaining in Hospitals at end of 1934 | Males | Females | Total | |
| 145. Puerperal sepsis: | | | | | | | | | |
| (a) Puerperal septicæmia and pyæmia | ... | 10 | 4 | 10 | ... | ... | 5 | 5 | 15 |
| (b) Puerperal tetanus | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| 146. Puerperal albuminuria and convulsions: | | | | | | | | | |
| 1. Puerperal convulsions | ... | 3 | 3 | 3 | ... | ... | ... | ... | 3 |
| 2. Other conditions included under 146 | ... | 4 | 2 | 4 | ... | ... | 3 | 3 | 7 |
| 147. Other toxæmias of pregnancy | ... | 21 | ... | 21 | 2 | ... | 94 | 94 | 115 |
| 148. Puerperal phlegmasia alba dolens, embolism and sudden death: | | | | | | | | | |
| (a) Puerperal phlegmasia alba dolens not returned as septic | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| (b) Puerperal embolism and sudden death | ... | 3 | 3 | 3 | ... | ... | ... | ... | 3 |
| 149. Other accidents of childbirth | 1 | 94 | 21 | 95 | 1 | ... | 4 | 4 | 99 |
| 150. Other or unspecified conditions of the puerperal state: | | | | | | | | | |
| 1. Puerperal insanity | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| 2. Puerperal diseases of the breast | ... | 4 | ... | 4 | ... | ... | 109 | 109 | 113 |
| 3. Childbirth | 3 | 555 | 3 | 558 | 10 | ... | 344 | 344 | 902 |
| **XII.—Diseases of the Skin and Cellular Tissue.** | | | | | | | | | |
| 151. Carbuncle, boil | 1 | 88 | 1 | 89 | ... | 1,775 | 378 | 2,153 | 2,242 |
| 152. Cellulitis, acute abscess: | | | | | | | | | |
| 1. Cellulitis | 29 | 449 | 5 | 478 | 16 | 3,046 | 761 | 3,807 | 4,285 |
| 2. Acute abscess | 30 | 800 | 21 | 830 | 35 | 3,066 | 1,028 | 4,094 | 4,924 |
| 153. Other diseases of the skin and its annexa: | | | | | | | | | |
| (a) Eczema | ... | 101 | 1 | 101 | 4 | 2,270 | 967 | 3,237 | 3,338 |
| (b) Herpes | ... | 15 | ... | 15 | ... | 285 | 74 | 359 | 374 |
| (c) Impetigo | ... | 5 | ... | 5 | ... | 168 | 112 | 280 | 285 |
| (d) Pediculosis | ... | ... | ... | ... | ... | 43 | 20 | 63 | 63 |
| (e) Psoriasis | ... | 3 | ... | 3 | ... | 215 | 88 | 303 | 306 |
| (f) Scabies | 6 | 133 | ... | 139 | 1 | 12,178 | 5,095 | 17,273 | 17,412 |
| (g) Sebaceous cyst | ... | 20 | ... | 20 | 3 | 39 | 13 | 52 | 72 |
| (h) Ulcers | 247 | 3,335 | 29 | 3,582 | 296 | 34,448 | 9,900 | 44,348 | 47,930 |
| (i) Urticaria | ... | 24 | ... | 24 | 2 | 487 | 237 | 724 | 748 |
| (j) Others | 4 | 34 | ... | 38 | ... | 1,082 | 311 | 1,393 | 1,431 |

| DISEASES | In-Patients | | | | | Out-Patients | | | Total Cases In- and Out-Patients |
|---|---|---|---|---|---|---|---|---|---|
| | Remaining in Hospitals at end of 1933 | Yearly Total: Admissions | Yearly Total: Deaths | Total Cases Treated | Remaining in Hospitals at end of 1934 | Males | Females | Total | |
| **XIII.—Diseases of the Bones and Organs of Locomotion.** | | | | | | | | | |
| 154. Acute infective osteomyelitis and periostitis | 10 | 71 | 8 | 81 | 14 | 146 | 65 | 211 | 292 |
| 155. Other diseases of the bones | 13 | 151 | 7 | 164 | 19 | 487 | 172 | 659 | 823 |
| 156. Diseases of the joints and other organs of locomotion: | | | | | | | | | |
| (a) Diseases of the joints | 9 | 275 | 2 | 284 | 23 | 2,382 | 788 | 3,170 | 3,454 |
| (b) Diseases of other organs of locomotion | 2 | 338 | ... | 340 | 12 | 8,869 | 2,700 | 11,569 | 11,909 |
| **XIV.—Congenital Malformations.** | | | | | | | | | |
| 157. Congenital malformations: | | | | | | | | | |
| (a) Congenital hydrocephalus | ... | 1 | 1 | 1 | ... | 1 | ... | 1 | 2 |
| (b) Spina bifida and meningocele | ... | 2 | ... | 2 | ... | 1 | ... | 1 | 3 |
| (c) Congenital malformations of heart | ... | 1 | 1 | 1 | ... | ... | ... | ... | 1 |
| (d) Monstrosities | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| (e) Other congenital malformations— | | | | | | | | | |
| 1. Congenital pyloric stenosis | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| 2. Cleft palate, harelip | ... | 1 | 1 | 1 | ... | ... | ... | ... | 1 |
| 3. Imperforate anus | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| 4. Other stated congenital malformations | ... | 4 | ... | 4 | ... | 2 | 1 | 3 | 7 |
| **XV.—Diseases of Early Infancy.** | | | | | | | | | |
| 158. Congenital debility | 1 | 31 | 7 | 32 | ... | 44 | 24 | 68 | 100 |
| 159. Premature birth | ... | 2 | 1 | 2 | ... | 2 | ... | 2 | 4 |
| 160. Injury at birth: | | | | | | | | | |
| (a) With mention of cæsarean section | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| (b) Without mention of cæsarean section | ... | ... | ... | ... | ... | ... | 1 | 1 | 1 |
| 161. Other diseases peculiar to early infancy: | | | | | | | | | |
| (a) Atelectasis | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| (b) Icterus neonatorum | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| (c) Other diseases included under 161 | ... | 1 | ... | 1 | ... | 23 | 21 | 44 | 45 |
| **XVI.—Old Age.** | | | | | | | | | |
| 162. Old Age: | | | | | | | | | |
| (a) Senile dementia | ... | 3 | ... | 3 | ... | 88 | 33 | 121 | 124 |
| (b) Other forms of senile decay | 3 | 78 | 34 | 81 | ... | 206 | 119 | 325 | 406 |

| DISEASES | In-Patients | | | | | Out-Patients | | | Total Cases In- and Out-Patients |
|---|---|---|---|---|---|---|---|---|---|
| | Remaining in Hospitals at end of 1933 | Yearly Total: Admissions | Yearly Total: Deaths | Total Cases Treated | Remaining in Hospitals at end of 1934 | Males | Females | Total | |
| **XVII.—Affections Produced by External Causes.** | | | | | | | | | |
| 163. Suicide by solid or liquid poisons and corrosive substances | ... | 1 | 1 | 1 | ... | ... | ... | ... | 1 |
| 164. Suicide by poisonous gas | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| 165. Suicide by hanging or strangulation | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| 166. Suicide by drowning | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| 167. Suicide by firearms | ... | 1 | 1 | 1 | ... | ... | ... | ... | 1 |
| 168. Suicide by cutting or piercing instruments | ... | 15 | 1 | 15 | ... | ... | ... | ... | 15 |
| 169. Suicide by jumping from high place | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| 170. Suicide by crushing | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| 171. Suicide by other means | ... | 1 | 1 | 1 | ... | ... | ... | ... | 1 |
| 172. Infanticide (under one year) | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| 173. Homicide by firearms | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| 174. Homicide by cutting or piercing instruments | ... | 3 | ... | 3 | ... | 11 | 4 | 15 | 18 |
| 175. Homicide by other means | 1 | 3 | 1 | 4 | ... | 11 | 1 | 12 | 16 |
| 176. Attack by venomous animals | 1 | 69 | 4 | 70 | 2 | 189 | 43 | 232 | 302 |
| 177. Food poisoning | ... | 16 | 2 | 16 | ... | 11 | 6 | 17 | 33 |
| 178. Accidental absorption of irrespirable or poisonous gas | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| 179. Other acute accidental poisoning (not by gas) | ... | 20 | 6 | 20 | ... | 7 | 1 | 8 | 28 |
| 180. Conflagration | 7 | 69 | 12 | 76 | 8 | 161 | 89 | 250 | 326 |
| 181. Accidental burns (conflagration excepted) | 14 | 178 | 21 | 192 | 11 | 1,227 | 598 | 1,825 | 2,017 |
| 182. Accidental mechanical suffocation | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| 183. Accidental drowning | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| 184. Accidental injury by firearms | 2 | 42 | 4 | 44 | 1 | 119 | 31 | 150 | 194 |
| 185. Accidental injury by cutting or piercing instruments | 27 | 856 | 32 | 883 | 30 | 8,577 | 1,338 | 9,915 | 10,798 |
| 186. Accidental injury by fall, crushing, etc. | 28 | 942 | 20 | 970 | 29 | 12,243 | 2,118 | 14,361 | 15,331 |
| 187. Cataclysm | 1 | ... | ... | 1 | ... | ... | ... | ... | 1 |
| 188. Injury by animals (poisoning by venomous animals excepted) | 17 | 137 | 17 | 154 | 18 | 220 | 61 | 281 | 435 |
| 189. Hunger or thirst | ... | 2 | 2 | 2 | ... | ... | ... | ... | 2 |
| 190. Excessive cold | ... | ... | ... | ... | ... | 1 | ... | 1 | 1 |
| 191. Excessive heat | ... | 5 | ... | 5 | ... | 8 | 2 | 10 | 15 |
| 192. Lightning | ... | 3 | ... | 3 | ... | 3 | ... | 3 | 6 |
| 193. Electricity (lightning excepted) | ... | 1 | ... | 1 | ... | ... | ... | ... | 1 |

## Diseases and Deaths (All Races)—*contd.*

| DISEASES | In-Patients | | | | | Out-Patients | | | Total Cases In- and Out-Patients |
|---|---|---|---|---|---|---|---|---|---|
| | Remaining in Hospitals at end of 1933 | Yearly Total: Admissions | Yearly Total: Deaths | Total Cases Treated | Remaining in Hospitals at end of 1934 | Males | Females | Total | |
| 194. Other and unstated forms of accidental violence: | | | | | | | | | |
| 1. Inattention at birth ... ... ... ... ... ... | ... | 1 | ... | 1 | ... | 1 | 2 | 3 | 4 |
| 2. Other causes included under 194 ... ... ... ... | 68 | 764 | 27 | 832 | 47 | 6,216 | 1,393 | 7,609 | 8,441 |
| 195. Violent deaths of unstated nature (i.e. accidental, suicidal, etc.) | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| 196. Wounds of war ... ... ... ... ... ... ... | ... | .. | ... | ... | ... | ... | ... | ... | ... |
| 197. Execution of civilians by belligerent armies ... ... ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| 198. Execution ... ... ... ... ... ... ... ... ... | ... | .. | ... | ... | ... | ... | 1 | 1 | 1 |
| **XVIII.—Ill-defined Diseases.** | | | | | | | | | |
| 199. Sudden deaths ... ... ... ... ... ... ... | ... | 1 | 1 | 1 | ... | 1 | ... | 1 | 2 |
| 200. Cause of death unstated or ill-defined ... ... ... ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| 201. Pyrexia of uncertain origin ... ... ... ... ... | ... | 104 | 3 | 104 | ... | 1,569 | 351 | 1,920 | 2,024 |
| 202. Other ill-defined diseases ... ... ... ... ... ... | 2 | 199 | 14 | 201 | 17 | 954 | 376 | 1,330 | 1,531 |
| Total ... | 1,471 | 34,332 | 1,506 | 35,803 | 1,467 | 370,657 | 175,788 | 546,445 | 582,248 |
| Total cases treated by Medical Staff on tour ... ... ... ... | ... | ... | ... | ... | ... | 37,643 | 31,623 | 69,266 | 69,266 |
| Total cases treated by African Dispensers ... ... ... ... | 39 | 940 | 29 | 979 | 46 | 89,689 | 54,267 | 143,956 | 144,935 |
| Total cases treated by Missionaries supplied with Government drugs and equipment ... ... ... ... ... ... ... ... | ... | 101 | 8 | 101 | 11 | ... | ... | 31,453 | 31,554 |
| Grand Total ... | 1,510 | 35,373 | 1,543 | 36,883 | 1,524 | 497,989 | 261,678 | 791,120 | 828,003 |

## Return of Diseases and Deaths (In-Patients) and of Diseases (Out-Patients) for the year 1934.
## Europeans (Official and Non-Official).

| DISEASES | In-Patients | | | | | Out-Patients | | | Total Cases In- and Out-Patients |
|---|---|---|---|---|---|---|---|---|---|
| | Remaining in Hospitals at end of 1933 | Yearly Total: Admissions | Yearly Total: Deaths | Total Cases Treated | Remaining in Hospitals at end of 1934 | Males | Females | Total | |
| **I.—Infectious and Parasitic Diseases.** | | | | | | | | | |
| 1. Typhoid fever | 1 | 12 | 1 | 13 | 1 | ... | 1 | 1 | 14 |
| 2. Paratyphoid fevers: | | | | | | | | | |
| (a) Paratyphoid A | ... | 2 | ... | 2 | ... | ... | ... | ... | 2 |
| (b) Paratyphoid B | ... | 1 | ... | 1 | 1 | ... | ... | ... | 1 |
| 3. Typhus fever | ... | 5 | ... | 5 | ... | ... | ... | ... | 5 |
| 4. Relapsing fever | ... | 9 | ... | 9 | 1 | 1 | ... | 1 | 10 |
| 5. Undulant fever | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| 6. Smallpox | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| 7. Measles | ... | 7 | ... | 7 | ... | ... | 2 | 2 | 9 |
| 8. Scarlet fever | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| 9. Whooping cough | ... | ... | ... | ... | ... | 2 | ... | 2 | 2 |
| 10. Diphtheria | ... | 2 | ... | 2 | ... | ... | ... | ... | 2 |
| 11. Influenza | 2 | 134 | ... | 136 | 2 | 43 | 25 | 68 | 204 |
| 12. Cholera | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| 13. Dysentery: | | | | | | | | | |
| (a) Amœbic | ... | 17 | ... | 17 | 1 | 18 | 6 | 24 | 41 |
| (b) Bacillary | ... | 1 | ... | 1 | ... | 1 | ... | 1 | 2 |
| (c) Other or unspecified | ... | 5 | ... | 5 | ... | 7 | 3 | 10 | 15 |
| 14. Plague: | | | | | | | | | |
| (a) Bubonic | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| (b) Pneumonic | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| (c) Septicæmic | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| (d) Not otherwise defined | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| 15. Erysipelas | ... | 1 | ... | 1 | ... | ... | ... | ... | 1 |
| 16. Acute poliomyelitis | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| 17. Encephalitis lethargica | ... | ... | ... | ... | ... | ... | 1 | 1 | 1 |
| 18. Cerebro-spinal fever | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| 19. Glanders | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| 20. Anthrax | ... | 1 | ... | 1 | ... | ... | ... | ... | 1 |
| 21. Rabies | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| 22. Tetanus | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| 23. Tuberculosis of the respiratory system | ... | 2 | ... | 2 | ... | 1 | 1 | 2 | 4 |

| DISEASES | In-Patients | | | | | Out-Patients | | | Total Cases In- and Out-Patients |
|---|---|---|---|---|---|---|---|---|---|
| | Remaining in Hospitals at end of 1933 | Yearly Total: Admissions | Yearly Total: Deaths | Total Cases Treated | Remaining in Hospitals at end of 1934 | Males | Females | Total | |
| 24. Tuberculosis of the central nervous system | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| 25. Tuberculosis of intestines and peritoneum | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| 26. Tuberculosis of vertebral column | ... | 1 | ... | 1 | 1 | ... | 1 | 1 | 2 |
| 27. Tuberculosis of other bones and joints | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| 28. Tuberculosis of skin and subcutaneous tissues | ... | ... | ... | ... | ... | 1 | ... | 1 | 1 |
| 29. Tuberculosis of lymphatic system (abdominal and bronchial glands excepted) | ... | ... | ... | ... | ... | 1 | 1 | 2 | 2 |
| 30. Tuberculosis of genito-urinary system | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| 31. Tuberculosis of other organs | ... | ... | ... | ... | ... | ... | 1 | 1 | 1 |
| 32. Disseminated tuberculosis: | | | | | | | | | |
| (a) Acute | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| (b) Chronic | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| (c) Not distinguished as acute or chronic | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| 33. Leprosy | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| 34. Syphilis: | | | | | | | | | |
| (a) Congenital | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| (b) Acquired: | | | | | | | | | |
| 1. Primary | ... | ... | ... | ... | ... | 12 | ... | 12 | 12 |
| 2. Secondary | ... | ... | ... | ... | ... | 10 | ... | 10 | 10 |
| 3. Tertiary | ... | ... | ... | ... | ... | 6 | ... | 6 | 6 |
| 4. Unspecified | ... | ... | ... | ... | ... | 1 | ... | 1 | 1 |
| 35. Other venereal diseases: | | | | | | | | | |
| 1. Gonorrhœal or purulent ophthalmia | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| 2. Other diseases included under 35 | ... | 1 | ... | 1 | ... | 2 | ... | 2 | 3 |
| Gonorrhœa | ... | 3 | ... | 3 | ... | 29 | 1 | 30 | 33 |
| Soft Chancre | ... | ... | ... | ... | ... | 3 | ... | 3 | 3 |
| 36. Purulent infection, septicæmia | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| (a) Septicæmia | ... | ... | ... | ... | ... | ... | 1 | 1 | 1 |
| (b) Pyæmia | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| (c) Gas gangrene | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| 37. Yellow fever | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| 38. Malaria: | | | | | | | | | |
| Tertian | ... | 7 | ... | 7 | ... | 2 | 2 | 4 | 11 |
| Quartan | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| Subtertian | ... | 471 | 1 | 476 | 3 | 154 | 74 | 228 | 704 |
| Cachexia | ... | 2 | ... | 2 | ... | 14 | 3 | 17 | 19 |
| Unspecified | ... | 86 | ... | 86 | 2 | 42 | 23 | 65 | 151 |

| DISEASES | In-Patients | | | | | Out-Patients | | | Total Cases In- and Out-Patients |
|---|---|---|---|---|---|---|---|---|---|
| | Remaining in Hospitals at end of 1933 | Yearly Total: Admissions | Yearly Total: Deaths | Total Cases Treated | Remaining in Hospitals at end of 1934 | Males | Females | Total | |
| 39. Other diseases due to protozoa: | | | | | | | | | |
| Leishmaniasis | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| Kala-azar | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| Rat-bite fever | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| Spirochætosis ictero-hæmorrhagica | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| Trypanosomiasis | ... | 5 | ... | 5 | ... | ... | ... | ... | 5 |
| Yaws | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| 40. Ankylostomiasis | ... | 2 | ... | 2 | ... | 1 | ... | 1 | 3 |
| 41. Hydatid cysts | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| 42. Other diseases due to helminths: | ... | ... | ... | ... | ... | 2 | ... | 2 | 2 |
| Cestodes (Tæniasis) | ... | 4 | ... | 4 | ... | 5 | 3 | 8 | 12 |
| Nematodes (not including Ankylostoma) | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| Ascariasis | ... | ... | ... | ... | ... | 3 | 3 | 6 | 6 |
| Dracontiasis (guinea worm) | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| Filarial elephantiasis | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| Filariasis | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| Oxyuris vermicularis | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| Trichiniasis | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| Tricocephalus dispar | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| Trematodes | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| Schistosomiasis | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| 43. Mycoses: | | | | | | | | | |
| 1. Actino mycosis | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| 2. Other mycoses | ... | ... | ... | ... | ... | 2 | ... | 2 | 2 |
| 44. Other infectious or parasitic diseases: | | | | | | | | | |
| 1. Vaccinia | ... | ... | ... | ... | ... | 5 | ... | 5 | 5 |
| 2. Other sequelæ of vaccination (infective) | ... | ... | ... | ... | ... | 17 | ... | 17 | 17 |
| 3. German measles | ... | 2 | ... | 2 | ... | ... | ... | ... | 2 |
| 4. Varicella (Chickenpox) | ... | 1 | ... | 1 | ... | 2 | 1 | 3 | 4 |
| 5. Mumps | ... | 1 | ... | 1 | ... | ... | ... | ... | 1 |
| 6. Other diseases included under 44 | ... | ... | ... | ... | ... | 2 | ... | 2 | 2 |
| Blackwater fever | ... | 16 | 6 | 16 | ... | 6 | 2 | 8 | 24 |
| Dengue | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| Sandfly fever (Phlebotomus or Papataci fever) | ... | ... | ... | ... | ... | ... | ... | ... | ... |

| DISEASES | In-Patients | | | | | Out-Patients | | | Total Cases In- and Out-Patients |
|---|---|---|---|---|---|---|---|---|---|
| | Remaining in Hospitals at end of 1933 | Yearly Total: Admissions | Yearly Total: Deaths | Total Cases Treated | Remaining in Hospitals at end of 1934 | Males | Females | Total | |
| **II.—Cancer and Other Tumours.** | | | | | | | | | |
| 45-53. Malignant tumours: | | | | | | | | | |
| 45. Cancer of the buccal cavity and pharynx... | ... | ... | ... | ... | ... | 1 | ... | 1 | 1 |
| 46. Cancer of the digestive organs and peritoneum | 1 | 1 | 1 | 2 | ... | ... | ... | ... | 2 |
| 47. Cancer of the respiratory organs | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| 48. Cancer of the uterus | ... | 1 | ... | 1 | 1 | ... | ... | ... | 1 |
| 49. Cancer of other female genital organs | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| 50. Cancer of the breast | ... | 1 | ... | 1 | ... | ... | ... | ... | 1 |
| 51. Cancer of the male genito-urinary organs | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| 52. Cancer of the skin | ... | ... | ... | ... | ... | 2 | ... | 2 | 2 |
| 53. Cancer of other or unspecified organs | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| 54. Non-malignant tumours: | | | | | | | | | |
| (a) Female genital organs | ... | 1 | ... | 1 | ... | ... | ... | ... | 1 |
| (b) Other sites | ... | ... | ... | ... | ... | 5 | ... | 5 | 5 |
| 55. Tumours of undetermined nature: | | | | | | | | | |
| (a) Female genital organs | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| (b) Other sites | .. | 3 | ... | 3 | ... | 2 | ... | 2 | 5 |
| **III.—Rheumatism, Diseases of Nutrition and of Endocrine Glands and Other General Diseases.** | | | | | | | | | |
| 56. Rheumatic fever | ... | 2 | ... | 2 | ... | 3 | 1 | 4 | 6 |
| 57. Chronic rheumatism, Osteo-arthritis | ... | 4 | ... | 4 | ... | 22 | 15 | 37 | 41 |
| 58. Gout | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| 59. Diabetes (not including Insipidus) | ... | 3 | ... | 3 | ... | 3 | 1 | 4 | 7 |
| 60. Scurvy | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| 61. Beri-beri | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| 62. Pellagra | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| 63. Rickets | ... | 1 | ... | 1 | ... | ... | 2 | 2 | 3 |
| 64. Osteomalacia | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| 65. Diseases of the pituitary gland | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| 66. Diseases of the thyroid and parathyroid glands: | | | | | | | | | |
| (a) Simple goitre | ... | ... | ... | ... | ... | ... | 1 | 1 | 1 |
| (b) Exophthalmic goitre | ... | ... | ... | ... | ... | ... | 2 | 2 | 2 |
| (c) Myxœdema, Cretinism | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| (d) Tetany | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| (e) Other diseases of the thyroid or parathyroid glands | ... | ... | ... | ... | ... | ... | 1 | 1 | 1 |
| 67. Diseases of the thymus | ... | ... | ... | ... | ... | ... | ... | ... | ... |

| DISEASES | In-Patients | | | | | Out-Patients | | | Total Cases In-and Out-Patients |
|---|---|---|---|---|---|---|---|---|---|
| | Remaining in Hospitals at end of 1933 | Yearly Total: Admissions | Yearly Total: Deaths | Total Cases Treated | Remaining in Hospitals at end of 1934 | Males | Females | Total | |
| 68. Diseases of the adrenals (non-tuberculous) | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| 69. Other general diseases: | | | | | | | | | |
| 1. Amyloid disease of unstated origin | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| 2. Other diseases included under 69 | ... | 1 | ... | 1 | ... | 14 | 15 | 29 | 30 |
| **IV.—Diseases of the Blood and Blood-Forming Organs.** | | | | | | | | | |
| 70. Hæmorrhagic conditions: | | | | | | | | | |
| (a) Purpura | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| (b) Hæmophilia | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| 71. Anæmia, chlorosis: | | | | | | | | | |
| (a) Pernicious anæmia | ... | 1 | ... | 1 | ... | ... | 2 | 2 | 3 |
| (b) Other anæmias and chlorosis | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| 1. Splenic anæmias | ... | ... | ... | ... | ... | ... | 1 | 1 | 1 |
| 2. Other diseases included under 71 (b) | ... | 8 | ... | 8 | ... | 10 | 7 | 17 | 25 |
| 72. Leukæmia, Aleukæmia: | | | | | | | | | |
| (a) Leukæmia | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| (b) Aleukæmia (Lymphadenoma) | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| 73. Diseases of the spleen: | | | | | | | | | |
| 1. Banti's disease | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| 2. Other diseases of the spleen | ... | ... | ... | ... | ... | 1 | 2 | 3 | 3 |
| 74. Other diseases of the blood and blood-forming organs | ... | 1 | ... | 1 | ... | 1 | ... | 1 | 2 |
| **V.—Chronic Poisoning.** | | | | | | | | | |
| 75. Alcoholism (acute or chronic) | ... | 3 | ... | 3 | ... | 1 | ... | 1 | 4 |
| 76. Chronic poisoning by other organic substances | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| 77. Chronic poisoning by mineral substances | ... | ... | ... | ... | ... | 3 | ... | 3 | 3 |
| **VI.—Diseases of the Nervous and Sense Organs.** | | | | | | | | | |
| 78. Encephalitis (not including Lethargica: *see* 17): | | | | | | | | | |
| (a) Cerebral abscess | ... | 1 | ... | 1 | ... | ... | ... | ... | 1 |
| (b) Other diseases included under 78 | ... | 1 | ... | 1 | 1 | ... | ... | ... | 1 |
| 79. Meningitis | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| 80. Tabes dorsalis (Locomotor ataxy) | ... | ... | ... | ... | ... | 1 | ... | 1 | 1 |

| DISEASES | In-Patients | | | | Out-Patients | | | Total Cases In- and Out-Patients |
|---|---|---|---|---|---|---|---|---|
| | Remaining in Hospitals at end of 1933 | Yearly Total: Admissions | Yearly Total: Deaths | Total Cases Treated | Remaining in Hospitals at end of 1934 | Males | Females | Total | |
| 81. Other diseases of spinal cord: | | | | | | | | | |
| 1. Progressive muscular atrophy | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| 2. Subacute combined sclerosis | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| 3. Myelitis of unstated origin | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| 4. Other diseases included under 81 | ... | ... | ... | ... | 1 | ... | 1 | 1 | 1 |
| 82. Cerebral hæmorrhage, Apoplexy, etc.: | | | | | | | | | |
| (a) 1. Cerebral hæmorrhage | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| 2. Apoplexy (lesion unstated) | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| (b) 1. Cerebral embolism | ... | ... | ... | ... | 1 | ... | 1 | 1 | 1 |
| 2. Cerebral thrombosis | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| 3. Cerebral softening | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| (c) 1. Hemiplegia | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| 2. Other paralyses of unstated origin | ... | 1 | ... | 1 | ... | 1 | ... | 1 | 2 |
| 83. General paralysis of the insane | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| 84. Other forms of insanity | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| 85. Epilepsy | ... | 2 | ... | 2 | ... | ... | ... | ... | 2 |
| 86. Infantile convulsions (under 5 years of age) | ... | 3 | ... | 3 | ... | ... | ... | ... | 3 |
| 87. Other diseases of the nervous system: | | | | | | | | | |
| (a) Chorea | ... | 1 | ... | 1 | ... | ... | ... | ... | 1 |
| (b) Neuritis, neuralgia | ... | 7 | ... | 7 | ... | 24 | 23 | 47 | 54 |
| (c) Paralysis agitans | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| (d) Disseminated sclerosis | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| (e) Other diseases included under 87 | ... | 7 | ... | 7 | ... | 18 | 13 | 31 | 38 |
| 88. Diseases of the eye and annexa: | | | | | | | | | |
| Blepharitis | ... | ... | ... | ... | ... | 3 | 2 | 5 | 5 |
| Cataract (all forms) | ... | ... | ... | ... | ... | 3 | 2 | 5 | 5 |
| Conjunctivitis | ... | 5 | ... | 5 | ... | 29 | 17 | 46 | 51 |
| Glaucoma | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| Iritis | ... | 1 | ... | 1 | ... | ... | ... | ... | 1 |
| Keratitis | ... | 3 | ... | 3 | ... | 2 | ... | 2 | 5 |
| Ophthalmia (not including Neonatorum: *see* 35 (1)) | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| Optic Neuritis | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| Trachoma | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| Other diseases of the eye | ... | ... | ... | ... | ... | 13 | 4 | 17 | 17 |
| 89. Diseases of the ear and of the mastoid sinus: | | | | | | | | | |
| (a) Otitis and other diseases of the ear | ... | 9 | ... | 9 | ... | 118 | 39 | 157 | 166 |
| (b) Diseases of the mastoid sinus | ... | ... | ... | ... | ... | 16 | 7 | 23 | 23 |

| DISEASES | In-Patients | | | | | Out-Patients | | | Total Cases In- and Out-Patients |
|---|---|---|---|---|---|---|---|---|---|
| | Remaining in Hospitals at end of 1933 | Yearly Total: Admissions | Yearly Total: Deaths | Total Cases Treated | Remaining in Hospitals at end of 1934 | Males | Females | Total | |
| **VII.—Diseases of the Circulatory System.** | | | | | | | | | |
| 90. Pericarditis | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| 91. Acute endocarditis: | | | | | | | | | |
| 1. Malignant endocarditis | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| 2. Other acute endocarditis | ... | 1 | 1 | 1 | ... | ... | ... | ... | 1 |
| 92. Chronic endocarditis, Valvular disease | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| 1. Aortic valve disease | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| 2. Mitral valve disease | ... | 1 | ... | 1 | ... | 3 | 1 | 4 | 5 |
| 3. Aortic and mitral valve disease | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| 4. Endocarditis not returned as acute or chronic | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| 5. Other or unspecified valve diseases | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| 93. Diseases of the myocardium: | | | | | | | | | |
| (a) Acute myocarditis | ... | 1 | ... | 1 | ... | ... | ... | ... | 1 |
| (b) Myocardial degeneration | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| 1. Fatty heart | ... | 1 | ... | 1 | ... | 1 | ... | 1 | 2 |
| 2. Cardiovascular degeneration | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| 3. Other diseases included under 93 (b) | ... | 1 | 1 | 1 | ... | 1 | ... | 1 | 2 |
| (c) Myocarditis not distinguished as acute or chronic | ... | 1 | ... | 1 | ... | ... | ... | ... | 1 |
| 94. Diseases of the coronary arteries, Angina pectoris | ... | ... | ... | ... | ... | 2 | 1 | 3 | 3 |
| 95. Other diseases of the heart: | | | | | | | | | |
| (a) Disordered action of heart | ... | 1 | ... | 1 | ... | 13 | 5 | 18 | 19 |
| (b) Other diseases included under 95 | ... | 2 | ... | 2 | 1 | 3 | 1 | 4 | 6 |
| 96. Aneurysm | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| 97. Arterio-sclerosis | ... | ... | ... | ... | ... | 1 | ... | 1 | 1 |
| 98. Gangrene | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| 99. Other diseases of the arteries | ... | ... | ... | ... | ... | 1 | ... | 1 | 1 |
| 100. Diseases of the veins (varix, hæmorrhoids, phlebitis, etc.): | | | | | | | | | |
| 1. Varix— | | | | | | | | | |
| Hæmorrhoids | ... | 4 | ... | 4 | ... | 17 | 3 | 20 | 24 |
| Varicocele | ... | ... | ... | ... | ... | 2 | 1 | 3 | 3 |
| Varicose veins | ... | ... | ... | ... | ... | 1 | 1 | 2 | 2 |
| 2. Other diseases of the veins— | | | | | | | | | |
| Phlebitis | ... | 1 | ... | 1 | ... | ... | ... | ... | 1 |

| DISEASES | In-Patients | | | | | Out-Patients | | | Total Cases In- and Out-Patients |
|---|---|---|---|---|---|---|---|---|---|
| | Remaining in Hospitals at end of 1933 | Yearly Total: Admissions | Yearly Total: Deaths | Total Cases Treated | Remaining in Hospitals at end of 1934 | Males | Females | Total | |
| 101. Diseases of the lymphatic system (Lymphangitis, etc.): | | | | | | | | | |
| Lymphadenitis | ... | 6 | ... | 6 | ... | 7 | 1 | 8 | 14 |
| Lymphangitis | ... | 8 | ... | 8 | ... | 2 | 1 | 3 | 11 |
| 102. Abnormalities of blood pressure | ... | ... | ... | ... | ... | 2 | ... | 2 | 2 |
| 103. Other diseases of the circulatory system | ... | 1 | ... | 1 | ... | ... | ... | ... | 1 |
| **VIII.—Diseases of the Respiratory System.** | | | | | | | | | |
| 104. Diseases of the nasal fossæ and annexa: | | | | | | | | | |
| 1. Diseases of the nose | ... | 14 | ... | 14 | ... | 68 | 20 | 88 | 102 |
| 2. Diseases of the accessory nasal sinuses | 1 | 6 | ... | 7 | ... | 7 | 8 | 15 | 22 |
| 105. Diseases of the larynx | ... | ... | ... | ... | ... | 2 | 2 | 4 | 4 |
| 106. Bronchitis: | | | | | | | | | |
| (a) Acute bronchitis | 1 | 14 | ... | 15 | ... | 23 | 16 | 39 | 54 |
| (b) Chronic bronchitis | ... | 1 | ... | 1 | ... | 4 | 2 | 6 | 7 |
| (c) Bronchitis not distinguished as acute or chronic | ... | 9 | ... | 9 | ... | 18 | 7 | 25 | 34 |
| 107. Broncho-pneumonia | ... | 2 | ... | 2 | ... | ... | ... | ... | 2 |
| 108. Lobar pneumonia | ... | 3 | 1 | 3 | ... | ... | ... | ... | 3 |
| 109. Pneumonia (not otherwise defined) | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| 110. Pleurisy: | | | | | | | | | |
| 1. Empyema | ... | ... | ... | ... | ... | 1 | 2 | 3 | 3 |
| 2. Other pleurisy | ... | 3 | ... | 3 | ... | 1 | 1 | 2 | 5 |
| 111. Congestion and hæmorrhagic infarct of lung, etc. | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| 112. Asthma | ... | 9 | ... | 9 | ... | 4 | 3 | 7 | 16 |
| 113. Pulmonary emphysema | ... | ... | ... | ... | ... | 1 | ... | 1 | 1 |
| 114. Other diseases of the respiratory system: | | | | | | | | | |
| (a) Chronic interstitial pneumonia, including occupational diseases of the lung | ... | ... | ... | ... | ... | ... | 1 | 1 | 1 |
| (b) Other diseases included under 114 | ... | 1 | ... | 1 | ... | 4 | 2 | 6 | 7 |
| **IX.—Diseases of the Digestive System.** | | | | | | | | | |
| 115. Diseases of the buccal cavity, pharynx, etc.: | | | | | | | | | |
| 1. Diseases of the teeth and gums | ... | 18 | ... | 18 | ... | 99 | 48 | 147 | 165 |
| 2. Ludwig's angina | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| 3. Diseases of the tonsils | ... | 51 | ... | 51 | ... | 37 | 20 | 57 | 108 |
| 4. Other diseases included under 115 | ... | 21 | ... | 21 | ... | 54 | 33 | 87 | 108 |
| 116. Diseases of the œsophagus | ... | ... | ... | ... | ... | 1 | ... | 1 | 1 |

| DISEASES | In-Patients | | | | | Out-Patients | | | Total Cases In- and Out-Patients |
|---|---|---|---|---|---|---|---|---|---|
| | Remaining in Hospitals at end of 1933 | Yearly Total: Admissions | Yearly Total: Deaths | Total Cases Treated | Remaining in Hospitals at end of 1934 | Males | Females | Total | |
| 117. Ulcer of the stomach or duodenum: | | | | | | | | | |
| (a) Ulcer of the stomach | ... | 8 | ... | 8 | ... | 4 | ... | 4 | 12 |
| (b) Ulcer of the duodenum | ... | 1 | ... | 1 | ... | ... | ... | ... | 1 |
| 118. Other diseases of the stomach: | | | | | | | | | |
| 1. Inflammation of the stomach | ... | 11 | ... | 11 | ... | 15 | 2 | 17 | 28 |
| 2. Other diseases included under 118 | 1 | 10 | ... | 11 | ... | 60 | 25 | 85 | 96 |
| 119 and 120. Diarrhœa and Enteritis: | | | | | | | | | |
| Under two years (a) 1. Colitis | ... | 3 | ... | 3 | ... | 7 | 1 | 8 | 11 |
| Under two years (a) 2. Other diarrhœa and enteritis | ... | 15 | ... | 15 | ... | 24 | 15 | 39 | 54 |
| Under two years (b) Ulceration of the intestines | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| Over two years (a) 1. Colitis | ... | 10 | ... | 10 | ... | 3 | 5 | 8 | 18 |
| Over two years (a) 2. Other diarrhœa and enteritis | ... | 61 | 1 | 61 | 1 | 71 | 24 | 95 | 156 |
| Over two years (b) Ulceration of the intestines | ... | ... | ... | ... | ... | 2 | 1 | 3 | 3 |
| 121. Appendicitis | 1 | 25 | 1 | 26 | ... | 4 | 5 | 9 | 35 |
| 122. Hernia, intestinal obstruction: | | | | | | | | | |
| (a) Hernia— | | | | | | | | | |
| 1. Strangulated hernia | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| 2. Hernia not returned as strangulated | 1 | 4 | ... | 5 | ... | 5 | 1 | 6 | 11 |
| (b) Intestinal obstruction | ... | 3 | 1 | 3 | ... | 1 | ... | 1 | 4 |
| 123. Other diseases of the intestines: | | | | | | | | | |
| 1. Constipation, intestinal stasis | ... | 6 | ... | 6 | ... | 19 | 21 | 40 | 46 |
| 2. Diverticulitis | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| 3. Other diseases included under 123 | ... | 13 | ... | 13 | ... | 6 | 2 | 8 | 21 |
| 124. Cirrhosis of the liver: | | | | | | | | | |
| (a) Returned as alcoholic | ... | 1 | ... | 1 | ... | ... | ... | ... | 1 |
| (b) Not returned as alcoholic | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| 125. Other diseases of the liver: | | | | | | | | | |
| 1. Acute yellow atrophy | ... | 1 | 1 | 1 | ... | ... | ... | ... | 1 |
| 2. Other diseases included under 125 | ... | 9 | ... | 9 | ... | 4 | 9 | 13 | 22 |
| 126. Biliary calculi | ... | ... | ... | ... | ... | 3 | ... | 3 | 3 |
| 127. Other diseases of the gall bladder and ducts: | | | | | | | | | |
| 1. Cholecystitis without record of biliary calculi | ... | 2 | ... | 2 | ... | 2 | ... | 2 | 4 |
| 2. Other diseases included under 127 | ... | 4 | ... | 4 | ... | 1 | ... | 1 | 5 |
| 128. Diseases of the pancreas | ... | 1 | ... | 1 | ... | ... | ... | ... | 1 |
| 129. Peritonitis without stated cause | ... | ... | ... | ... | ... | ... | ... | ... | ... |

| DISEASES | In-Patients | | | | | Out-Patients | | | Total Cases In- and Out-Patients |
|---|---|---|---|---|---|---|---|---|---|
| | Remaining in Hospitals at end of 1933 | Yearly Total: Admissions | Yearly Total: Deaths | Total Cases Treated | Remaining in Hospitals at end of 1934 | Males | Females | Total | |
| **X.—Non-venereal Diseases of the Genito-Urinary System and Annexa.** | | | | | | | | | |
| 130. Acute nephritis | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| 131. Chronic nephritis | ... | 1 | 1 | 1 | ... | ... | 1 | 1 | 2 |
| 132. Nephritis not stated to be acute or chronic | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| 133. Other diseases of the kidney and annexa: | | | | | | | | | |
| (a) Pyelitis | ... | 11 | ... | 11 | ... | ... | 9 | 9 | 20 |
| (b) Other diseases included under 133 | ... | 4 | ... | 4 | ... | 2 | 2 | 4 | 8 |
| 134. Calculi of the urinary passages: | | | | | | | | | |
| (a) Calculi of kidney and ureter | ... | 6 | ... | 6 | ... | 2 | 3 | 5 | 11 |
| (b) Calculi of the bladder | ... | ... | ... | ... | ... | 1 | ... | 1 | 1 |
| (c) Calculi of unstated site | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| 135. Diseases of the bladder: | | | | | | | | | |
| (a) Cystitis | 1 | 4 | ... | 5 | ... | 8 | 9 | 17 | 22 |
| (b) Other diseases of the bladder | ... | 1 | ... | 1 | ... | ... | 1 | 1 | 2 |
| 136. Diseases of the urethra, urinary abscess, etc.: | | | | | | | | | |
| (a) Stricture of the urethra | ... | 1 | ... | 1 | ... | 4 | ... | 4 | 5 |
| (b) Other diseases of the urethra, etc. | ... | 1 | ... | 1 | ... | 3 | 3 | 6 | 7 |
| 137. Diseases of the prostate | ... | 3 | ... | 3 | ... | 4 | ... | 4 | 7 |
| 138. Diseases of the male genital organs | ... | 5 | ... | 5 | ... | 23 | ... | 23 | 28 |
| 139. Diseases of the female genital organs (*see* 48 and 49 and Sec. XI): | | | | | | | | | |
| (a) Diseases of the ovary, fallopian tube and parametrium | ... | 2 | ... | 2 | ... | ... | 5 | 5 | 7 |
| (b) Diseases of the uterus | ... | 16 | ... | 16 | ... | ... | 36 | 36 | 52 |
| (c) Diseases of the breast | ... | 9 | ... | 9 | ... | ... | 12 | 12 | 21 |
| (d) Other diseases of the female genital organs | ... | 4 | ... | 4 | ... | ... | 16 | 16 | 20 |
| **XI.—Diseases of Pregnancy, Childbirth and the Puerperal State.** | | | | | | | | | |
| 140. Post-abortive sepsis | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| 141. Abortion not returned as septic: | | | | | | | | | |
| 1. Hæmorrhage following abortion | ... | 4 | ... | 4 | ... | ... | 2 | 2 | 6 |
| 2. Without record of hæmorrhage | ... | 11 | ... | 11 | ... | ... | ... | ... | 11 |
| 142. Ectopic gestation | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| 143. Other accidents of pregnancy | ... | 6 | ... | 6 | ... | ... | 14 | 14 | 20 |
| 144. Puerperal hæmorrhage: | | | | | | | | | |
| (a) Placenta prævia | ... | 2 | ... | 2 | ... | ... | ... | ... | 2 |
| (b) Other puerperal hæmorrhage | ... | ... | ... | ... | ... | ... | ... | ... | ... |

| DISEASES | In-Patients | | | | | Out-Patients | | | Total Cases In- and Out-Patients |
|---|---|---|---|---|---|---|---|---|---|
| | Remaining in Hospitals at end of 1933 | Yearly Total: Admissions | Yearly Total: Deaths | Total Cases Treated | Remaining in Hospitals at end of 1934 | Males | Females | Total | |
| 145. Puerperal sepsis: | | | | | | | | | |
| (a) Puerperal septicæmia and pyæmia | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| (b) Puerperal tetanus | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| 146. Puerperal albuminuria and convulsions: | | | | | | | | | |
| 1. Puerperal convulsions | ... | 2 | 2 | 2 | ... | ... | ... | ... | 2 |
| 2. Other conditions included under 146 | ... | ... | ... | ... | ... | ... | 1 | 1 | 1 |
| 147. Other toxæmias of pregnancy | ... | 9 | ... | 9 | 1 | ... | 38 | 38 | 47 |
| 148. Puerperal phlegmasia alba dolens, embolism and sudden death: | | | | | | | | | |
| (a) Puerperal phlegmasia alba dolens not returned as septic | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| (b) Puerperal embolism and sudden death | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| 149. Other accidents of childbirth | ... | 2 | ... | 2 | ... | ... | ... | ... | 2 |
| 150. Other or unspecified conditions of the puerperal state: | | | | | | | | | |
| 1. Puerperal insanity | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| 2. Puerperal diseases of the breast | ... | 10 | ... | 10 | ... | ... | 2 | 2 | 12 |
| 3. Childbirth | 1 | 91 | ... | 92 | 4 | ... | 2 | 2 | 94 |
| **XII.—Diseases of the Skin and Cellular Tissue.** | | | | | | | | | |
| 151. Carbuncle, boil | ... | 15 | ... | 15 | ... | 64 | 31 | 95 | 110 |
| 152. Cellulitis, acute abscess: | | | | | | | | | |
| 1. Cellulitis | ... | 16 | ... | 16 | ... | 34 | 12 | 46 | 62 |
| 2. Acute abscess | ... | 12 | ... | 12 | ... | 29 | 21 | 50 | 62 |
| 153. Other diseases of the skin and its annexa: | | | | | | | | | |
| (a) Eczema | ... | 3 | ... | 3 | ... | 25 | 6 | 31 | 34 |
| (b) Herpes | ... | ... | ... | ... | ... | 15 | 7 | 22 | 22 |
| (c) Impetigo | ... | 3 | ... | 3 | ... | 11 | 6 | 17 | 20 |
| (d) Pediculosis | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| (e) Psoriasis | ... | ... | ... | ... | ... | 2 | 1 | 3 | 3 |
| (f) Scabies | ... | ... | ... | ... | ... | 5 | ... | 5 | 5 |
| (g) Sebaceous cyst | ... | ... | ... | ... | ... | 6 | 2 | 8 | 8 |
| (h) Ulcers | ... | 11 | ... | 11 | ... | 67 | 27 | 94 | 105 |
| (i) Urticaria | ... | 4 | ... | 4 | ... | 22 | 21 | 43 | 47 |
| (j) Others | ... | 5 | ... | 5 | ... | 35 | 13 | 48 | 53 |

| DISEASES | In-Patients | | | | | Out-Patients | | | Total Cases In- and Out-Patients |
|---|---|---|---|---|---|---|---|---|---|
| | Remaining in Hospitals at end of 1933 | Yearly Total: Admissions | Yearly Total: Deaths | Total Cases Treated | Remaining in Hospitals at end of 1934 | Males | Females | Total | |
| **XIII.—Diseases of the Bones and Organs of Locomotion.** | | | | | | | | | |
| 154. Acute infective osteomyelitis and periostitis | ... | 1 | ... | 1 | ... | 3 | ... | 3 | 4 |
| 155. Other diseases of the bones | ... | 1 | ... | 1 | ... | 5 | 4 | 9 | 10 |
| 156. Diseases of the joints and other organs of locomotion: | | | | | | | | | |
| (a) Diseases of the joints | ... | 9 | ... | 9 | ... | 14 | 3 | 17 | 26 |
| (b) Diseases of other organs of locomotion | ... | 4 | ... | 4 | ... | 46 | 11 | 57 | 61 |
| **XIV.—Congenital Malformations.** | | | | | | | | | |
| 157. Congenital malformations: | | | | | | | | | |
| (a) Congenital hydrocephalus | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| (b) Spina bifida and meningocele | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| (c) Congenital malformations of heart | ... | 1 | 1 | 1 | ... | ... | ... | ... | 1 |
| (d) Monstrosities | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| (e) Other congenital malformations— | | | | | | | | | |
| 1. Congenital pyloric stenosis | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| 2. Cleft palate, harelip | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| 3. Imperforate anus | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| 4. Other stated congenital malformations | ... | ... | ... | ... | ... | ... | 1 | 1 | 1 |
| **XV.—Diseases of Early Infancy.** | | | | | | | | | |
| 158. Congenital debility | ... | ... | ... | ... | ... | ... | 1 | 1 | 1 |
| 159. Premature birth | ... | 1 | 1 | 1 | ... | ... | ... | ... | 1 |
| 160. Injury at birth: | | | | | | | | | |
| (a) With mention of cæsarean section | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| (b) Without mention of cæsarean section | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| 161. Other diseases peculiar to early infancy: | | | | | | | | | |
| (a) Atelectasis | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| (b) Icterus neonatorum | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| (c) Other diseases included under 161 | ... | ... | ... | ... | ... | 1 | ... | 1 | 1 |
| **XVI.—Old Age.** | | | | | | | | | |
| 162. Old Age: | | | | | | | | | |
| (a) Senile dementia | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| (b) Other forms of senile decay | ... | 1 | ... | 1 | ... | 2 | ... | 2 | 3 |

| DISEASES | In-Patients | | | | | Out-Patients | | | Total Cases In- and Out-Patients |
|---|---|---|---|---|---|---|---|---|---|
| | Remaining in Hospitals at end of 1933 | Yearly Total: Admissions | Yearly Total: Deaths | Total Cases Treated | Remaining in Hospitals at end of 1934 | Males | Females | Total | |
| **XVII.—Affections Produced by External Causes.** | | | | | | | | | |
| 163. Suicide by solid or liquid poisons and corrosive substances | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| 164. Suicide by poisonous gas | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| 165. Suicide by hanging or strangulation | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| 166. Suicide by drowning | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| 167. Suicide by firearms | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| 168. Suicide by cutting or piercing instruments | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| 169. Suicide by jumping from high place | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| 170. Suicide by crushing | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| 171. Suicide by other means | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| 172. Infanticide (under one year) | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| 173. Homicide by firearms | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| 174. Homicide by cutting or piercing instruments | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| 175. Homicide by other means | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| 176. Attack by venomous animals | ... | 1 | ... | 1 | ... | 7 | 4 | 11 | 12 |
| 177. Food poisoning | ... | 6 | ... | 6 | ... | 3 | 1 | 4 | 10 |
| 178. Accidental absorption of irrespirable or poisonous gas | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| 179. Other acute accidental poisoning (not by gas) | ... | 3 | 2 | 3 | ... | ... | ... | ... | 3 |
| 180. Conflagration | ... | 1 | ... | 1 | ... | 3 | ... | 3 | 4 |
| 181. Accidental burns (conflagration excepted) | ... | 1 | ... | 1 | ... | 4 | 3 | 7 | 8 |
| 182. Accidental mechanical suffocation | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| 183. Accidental drowning | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| 184. Accidental injury by firearms | ... | 2 | ... | 2 | ... | 2 | 1 | 3 | 5 |
| 185. Accidental injury by cutting or piercing instruments | ... | 2 | ... | 2 | ... | 31 | 9 | 40 | 42 |
| 186. Accidental injury by fall, crushing, etc. | ... | 29 | ... | 29 | ... | 66 | 16 | 82 | 111 |
| 187. Cataclysm | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| 188. Injury by animals (poisoning by venomous animals excepted) | ... | 3 | ... | 3 | 1 | 14 | 7 | 21 | 24 |
| 189. Hunger or thirst | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| 190. Excessive cold | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| 191. Excessive heat | ... | ... | ... | ... | ... | 4 | 2 | 6 | 6 |
| 192. Lightning | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| 193. Electricity (lightning excepted) | ... | ... | ... | ... | ... | ... | ... | ... | ... |

DISEASES AND DEATHS (EUROPEANS)—*contd.*

| DISEASES | In-Patients | | | | | Out-Patients | | | Total Cases In- and Out-Patients |
|---|---|---|---|---|---|---|---|---|---|
| | Remaining in Hospitals at end of 1933 | Yearly Total: Admissions | Yearly Total: Deaths | Total Cases Treated | Remaining in Hospitals at end of 1934 | Males | Females | Total | |
| 194. Other and unstated forms of accidental violence: | | | | | | | | | |
| 1. Inattention at birth ... ... ... ... ... ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| 2. Other causes included under 194 ... ... ... ... | ... | 16 | ... | 16 | 1 | 52 | 8 | 60 | 76 |
| 195. Violent deaths of unstated nature (i.e. accidental, suicidal, etc.) | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| 196. Wounds of war ... ... ... ... ... ... ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| 197. Execution of civilians by belligerent armies ... ... ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| 198. Execution ... ... ... ... ... ... ... ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| **XVIII.—Ill-defined Diseases.** | | | | | | | | | |
| 199. Sudden deaths ... ... ... ... ... ... ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| 200. Cause of death unstated or ill-defined ... ... ... ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| 201. Pyrexia of uncertain origin ... ... ... ... ... | ... | 29 | ... | 29 | 1 | 22 | 23 | 45 | 74 |
| 202. Other ill-defined diseases ... ... ... ... ... ... | ... | 16 | ... | 16 | ... | 35 | 28 | 63 | 79 |
| Total ... | 16 | 1,643 | 23 | 1,659 | 24 | 1,980 | 1,028 | 3,008 | 4,667 |

# Annual Report of the Laboratory Division, 1934.

ADMINISTRATIVE.

This report covers the activities of the Medical Laboratory, Dar es Salaam, and the Vaccine Lymph Institute, Mpwapwa, for the year ended 31st December, 1934.

The year's progress was disturbed by staff shortage and movement and it was necessary for a period of the year to limit the activities of the Laboratory Section to the barest essential routine. In the early part of 1934 the shortage of an analyst and the temporary closure of the Vaccine Lymph Institute disorganized normal working, but it is now possible to report a return to a more progressive state of activity.

STAFF.

Dr. Burke-Gaffney, Acting Deputy Director of Laboratory Service, proceeded on leave on 5th May and returned on 28th December, Dr. Skan acting from 5th May until the end of the year.

Dr. Wilson arrived from leave on 10th March and was in charge of the Vaccine Lymph Institute for the remainder of the year.

Mr. W. D. Raymond, Analyst, arrived on first appointment on transfer from Iraq on 2nd February.

Mr. Hammond, Laboratory Assistant; Mr. Amar Singh, Clerk; and the African staff were on duty for the whole of the year.

For a few months Dr. Wilson was temporarily attached to the main laboratory.

FINANCIAL.

By the exercise of rigid economy further reductions in the upkeep expenditure were made, as shown below :—

| | | | | | |
|---|---|---|---|---|---|
| Upkeep of Laboratory | 1932 | ... | ... | ... | Shs. 1,319/93 |
| ,, ,, | 1933 | ... | ... | ... | ,, 1,005/31 |
| ,, ,, | 1934 | ... | ... | ... | ,, 941/96 |

The revenue from laboratory fees showed an increase :—

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 1932 ... | ... | ... | ... | ... | ... | ... | Shs. | 1,340/74 |
| 1933 ... | ... | ... | ... | ... | ... | ... | ,, | 1,892/51 |
| 1934 ... | ... | ... | ... | ... | ... | ... | ,, | 2,090/94 |

The anticipated increase in revenue resulting from a reduction of laboratory fees was thus once more realized. There has been a considerable increase in the number of private examinations performed.

BUILDINGS AND EQUIPMENT.

The work in connection with the removal of the hospital dispensary to another site was commenced but was not completed at the end of 1934. It is hoped that it may be possible to occupy the former dispensary building in 1935.

MUSEUM.

Additions are regularly made to the museum and the collection is now attaining considerable size. Suitable arrangement of the specimens is impossible until adequate accommodation can be obtained.

INSTRUCTION OF AFRICAN ASSISTANTS.

The Laboratory staff now take an active part in the scheme of training for African medical assistants. A regular course of lectures and practical

demonstrations are given throughout the year in anatomy, physiology, clinical pathology, chemistry and physics. In addition to the formal course, refresher courses for African dispensers are still given.

The report is divided as follows :—

Part I.—Pathological Division, Dar es Salaam.
,, II.—Vaccine Lymph Institute, Mpwapwa.
,, III.—Chemical Division, Dar es Salaam.
Appendix I.—Bacteriological Examination of Water Samples.
,, II.—Katathermometer Readings at Dar es Salaam.
,, III.—Summary of Laboratory Examinations.

## Part I.—Pathological Division, Dar es Salaam.

It was inevitable that the number of specimens examined should have decreased during the year. The total amounted to 14,416 as compared with 15,722 in 1933. An increase was made in the number of chemical examinations after the arrival of the Analytical Chemist. It was necessary at various times during the year when staff shortage was most acute to call upon members of the laboratory staff to assist with other duties, which allowed less time to be available for increasing the laboratory work. General examinations to the number of 1,034 were, however, performed in Mpwapwa, bringing the total for both laboratories to 15,450.

Routine work is reported as follows :—

A. Parasitology
B. Serology
C. Other blood examinations
D. General examinations
E. Bacteriology
F. Public Health
G. Medico-legal
H. Pathology and Morbid Histology
I. Museum.

### A.—PARASITOLOGY.

(1) *Blood films.*—Four thousand five hundred and thirty-five blood films were examined with the following results :—

| | Europeans | Asiatics | Africans | Total |
|---|---|---|---|---|
| Malaria parasites | 174 | 389 | 959 | 1,522 |
| Trypanosomes | 2 | — | — | 2 |
| *Sp. duttoni* | 2 | 1 | 10 | 13 |
| Microfilaria | — | 2 | 7 | 9 |
| Total positive | 178 | 392 | 976 | 1,546 |
| ,, negative | 711 | 859 | 1,419 | 2,989 |
| ,, blood films | 889 | 1,251 | 2,395 | 4,535 |

(2) *Fæces.*—One thousand five hundred and thirty-five were examined with the following results :—

| | Europeans | Asiatics | Africans | Total |
|---|---|---|---|---|
| Ova of Ankylostoma | 4 | 3 | 593 | 600 |
| ,, Strongyloides | — | — | 65 | 65 |
| ,, Ascaris | — | — | 36 | 36 |
| ,, Trichuris | — | — | 33 | 33 |
| ,, Tænia | — | — | 6 | 6 |
| ,, Oxyuris | 1 | — | 2 | 3 |
| ,, *Schistosoma mansoni* | — | — | 4 | 4 |
| ,, ,, *hæmatobium* | — | — | 2 | 2 |
| *E. histolytica* | 1 | — | — | 1 |
| Flagellates | 9 | — | 46 | 55 |
| Positive fæces | 15 | 3 | 787 | 805 |
| Negative ,, | 124 | 45 | 561 | 730 |
| Total | 139 | 48 | 1,348 | 1,535 |

(3) *Urine.*—Two hundred and seventy-eight specimens were examined for *S. hæmatobium*; with the results shown :—

| | S. hæmatobium ova | Negative |
|---|---|---|
| Europeans ... ... | — | 1 |
| Asiatics ... ... | 1 | 22 |
| Africans ... ... | 97 | 157 |
| Total ... | 98 | 180 |

B.—SEROLOGY.

(1) *The Wassermann test.*—Four hundred and fifty-four sera were tested as under :—

| | |
|---|---|
| + ... ... ... ... ... ... ... | 129 |
| + — ... ... ... ... ... ... ... | 36 |
| Negative ... ... ... ... ... ... | 252 |
| Anticomplementary ... ... ... ... | 37 |
| Total ... | 454 |

The test was also performed with nine specimens of cerebrospinal fluid :—

| | |
|---|---|
| + ... ... ... ... ... ... ... | 3 |
| + — ... ... ... ... ... ... ... | 2 |
| Negative ... ... ... ... ... ... | 4 |

(2) *The Kahn test* was carried out with 473 specimens of serum as under :—

| | |
|---|---|
| + ... ... ... ... ... ... ... | 101 |
| + — ... ... ... ... ... ... ... | 97 |
| Negative ... ... ... ... ... ... | 275 |

(3) *Agglutination tests.*—One hundred and sixteen sera for test were obtained, a continued increase. The results are shown below :—

| | Europeans | Asiatics | Africans | Tota |
|---|---|---|---|---|
| Agglutination of *E. typhi* ... | 13 ... | 6 ... | 18 ... | 37 |
| ,, TAB ... ... | 3 ... | — ... | — ... | 3 |
| ,, TA ... ... | — ... | — ... | 1 ... | 1 |
| ,, TB ... ... | 3 ... | 1 ... | — ... | 4 |
| ,, *Br. melitensis* ... | — ... | — ... | 1 ... | 1 |
| Total positive ... ... ... | 19 ... | 7 ... | 20 ... | 46 |
| ,, negative ... ... ... | 15 ... | 13 ... | 42 ... | 70 |
| ,, Widals ... ... ... | 34 ... | 20 ... | 62 ... | 116 |

It will be noted that one positive agglutination of *Br. melitensis* occurred, the serum being of an African from Tanga. An interesting note by Dr. Wilson will be found in the report of routine examinations from the Vaccine Lymph Institute, which would seem to point more strongly to the presence, long suspected, of Brucella group infection in the Territory. The absence or rarity of agglutination with this group after so many years is surprising and is being made the subject of a special investigation during the coming year.

It will be observed that in Dr. Wilson's cases, cross immunological reactions were complete, and that in at least one case the clinical findings conformed with the recognized picture of undulant fever. Whether the disease may be regarded as being endemic in the neighbourhood of certain herds or whether it occurs sporadically throughout the Territory it is hoped to discover. After the first quarter of the year, *Br. abortus* agglutination was added to T.A.B. and *Br. melitensis* in the routine performance of the Widal test.

The distribution of the Enterica agglutinating sera was as follows :—

| | Dar es Salaam | Tanga | Morogoro | Mwanza | Mbeya | Kiomboi | Bukoba | Total |
|---|---|---|---|---|---|---|---|---|
| Europeans | 5 | 4 | 1 | 1 | 6 | 1 | 1 | 19 |

A number of these showed agglutination of the "H" type only, and were probably due to inoculation.

| | Mbeya | Mwanza | Kigoma | Kiomboi | Shinyanga | | | Total |
|---|---|---|---|---|---|---|---|---|
| Asiatics | 3 | 1 | 1 | 1 | 1 | | | 7 |

| | Tanga | Iringa | Mbeya | D'Salaam | Tukuyu | Kigoma | | Total |
|---|---|---|---|---|---|---|---|---|
| Africans | 7 | 5 | 3 | 2 | 1 | 1 | | 19 |

The percentage of positive results was lower than last year and although Mbeya heads the list, the number from that area was much lower than in previous years. Analysis of these figures shows that Mbeya, Tanga and Dar es Salaam produced the largest number of positives. It will be noted that Tanga is high in the list both of European and African cases.

C.—OTHER BLOOD EXAMINATIONS.

(1) *Blood culture.*—Three only were performed and all were negative.

(2) *Total counts.*—Twenty-four were performed, seven in Europeans, thirteen in Asiatics and four in Africans.

(3) *Differential counts.*—Seventy-six were performed as under :—

Europeans 15; Asiatics 16; Africans 45.

There is nothing of note to report in this connection.

(4) *Polynuclear counts.*—Twenty-five were performed and showed no special features.

D.—GENERAL EXAMINATIONS.

(1) *Fæces.*—Routine examination for cells, etc., were made on every specimen. 1,585 specimens were examined.

(2) *Urine.*—Nine hundred and sixty-six specimens of urine were examined. Of these 574 were subjected to general examination. Glucose was found in 15 specimens and albumin in 149. Hæmoglobin was present in 7 specimens.

E.—BACTERIOLOGY.

(1) *Fæces.*—Twenty-nine specimens of fæces were cultured. No pathogenic bacteria were isolated.

(2) *Urine.*—Bacteriological examination was made in every case, with the following results :—

| | Europeans | Asiatics | Africans | Total |
|---|---|---|---|---|
| *M. tuberculosis* | — | 1 | — | 1 |
| Gonococci | — | — | 1 | 1 |
| Coliform bacteria | 30 | 13 | 2 | 45 |
| Total positive | 30 | 14 | 3 | 47 |
| ,, negative | 34 | 20 | 6 | 60 |
| Total | 64 | 34 | 9 | 107 |

(3) *Sputum.*—Nine hundred and thirty-four sputa were examined :—

| | Europeans | Asiatics | Africans | Total |
|---|---|---|---|---|
| Positive *M. tuberculosis* | 5 | 13 | 281 | 299 |
| Negative ,, | 30 | 144 | 461 | 635 |
| Total | 35 | 157 | 742 | 934 |

The high percentage of positive findings in Africans is worthy of note. No monilia were observed this year.

(4) *Nasal and skin smears for presence of* M. lepræ.—Two hundred and fifty-three were examined, all in Africans. 170 were positive.

(5) *Throat swabs.*—Seventeen were examined. No specific pathogenic bacteria were found.

(6) *Urethral and vaginal smears.*—Fifty-two were examined as under :—

| | Europeans | Asiatics | Africans | Total |
|---|---|---|---|---|
| Gonococci present ... ... ... | 5 | 3 | 6 | 14 |
| Negative ... ... ... ... | 14 | 8 | 16 | 38 |
| Total ... | 19 | 11 | 22 | 52 |

(7) *Pus from abscesses, etc.*—Twenty-seven were examined as under :—

| | Europeans | Asiatics | Africans | Total |
|---|---|---|---|---|
| Pyogenic cocci ... ... ... | 5 | 5 | 1 | 11 |
| Pneumococci ... ... ... | 1 | 2 | 1 | 4 |
| Fusiform bacilli ... ... ... | 1 | — | — | 1 |
| *B. anthracis* ... ... ... | — | — | 2 | 2 |
| Total positive ... ... ... | 7 | 7 | 4 | 18 |
| ,, negative ... ... ... | 7 | — | 2 | 9 |
| Total ... | 14 | 7 | 6 | 27 |

It will be noted that two cases of cutaneous anthrax occurred in Africans. Both recovered after treatment with N.A.B.

(8) *Fluids.*—Twenty-six were examined :—

| | Europeans | Asiatics | Africans | Total |
|---|---|---|---|---|
| Cerebrospinal ... ... ... | — | — | 13 | 13 |
| Synovial ... ... ... ... | — | 3 | 5 | 8 |
| Pleural ... ... ... ... | — | — | 3 | 3 |
| Pericardial ... ... ... ... | — | — | 1 | 1 |
| Peritoneal ... ... ... ... | — | — | 1 | 1 |
| Total ... | — | 3 | 23 | 26 |

There is nothing of interest to note in the findings. Eleven specimens showed the presence of bacteria.

(9) *Vaccines.*—Thirty-one were prepared :—

| | | | |
|---|---|---|---|
| Staphylococci ... | 18 | *Br. alkaligenes* ... | 1 |
| *E. coli* ... ... | 8 | Mixed catarrhal ... | 2 |
| *B. pyocyaneus* ... | 2 | | |

F.—PUBLIC HEALTH.

(1) *Waters.*—Weekly water examinations were carried out throughout the year. The results are shown in Appendix I. Waters from wells were also examined. The total number of samples of water examined bacteriologically was 57. No change was made in the technique of examinations.

(2) *Katathermometer.*—Daily readings were made and the analysis recorded in Appendix II.

(3) *Rats.*—Two thousand nine hundred and eighty rats were examined for *P. pestis.* All were negative. A number of rodents from the Territory were despatched for classification to the Transvaal Museum and identifications were

made by the courtesy of Dr. Roberts. A number of simple identifications of rodents were made in the Laboratory as shown below :—

| Month | R. norvegicus | R. rattus | Mice | Total | Examined | Result |
|---|---|---|---|---|---|---|
| January | — | 556 | 348 | 904 | 260 | Negative, *P. pestis*. |
| February | — | 497 | 316 | 813 | 235 | |
| March | 6 | 556 | 516 | 1,078 | 250 | |
| April | 2 | 467 | 209 | 678 | 238 | |
| May | 4 | 622 | 424 | 1,050 | 260 | |
| June | 9 | 391 | 236 | 636 | 246 | |
| July | 10 | 685 | 496 | 1,191 | 260 | |
| August | 1 | 572 | 335 | 908 | 258 | |
| September | — | 489 | 329 | 818 | 241 | |
| October | 1 | 628 | 529 | 1,158 | 264 | |
| November | 5 | 617 | 420 | 1,042 | 260 | |
| December | 1 | 317 | 207 | 525 | 208 | |
| Total | 39 | 6,397 | 4,365 | 10,801 | 2,980 | |

G.—MEDICO-LEGAL.

The majority of these were carried out in the Chemical Division, but the following biological tests were performed :—

| | |
|---|---|
| Tests for human blood, negative | 4 |
| ,, ,, ,, ,, positive | 4 |
| ,, ,, ,, spermatozoa, negative | 4 |
| ,, ,, ,, ,, positive | 1 |
| ,, ,, ,, gonococci | 1 |
| Identification of bones | 1 |
| Total | 15 |

H.—PATHOLOGY AND MORBID HISTOLOGY.

(1) *Autopsies.*—Sixteen were performed, mostly of a medico-legal nature. The causes of deaths were as follows :—

| Cause of Death | Race | Number |
|---|---|---|
| Drowning | European | 1 |
| Toxæmia | African | 1 |
| Peritonitis | ,, | 2 |
| Poisoning by arrow | ,, | 1 |
| Fractured skull | ,, | 1 |
| Penetration of lung (accident) | ,, | 2 |
| General tuberculosis | ,, | 2 |
| Broncho-pneumonia | ,, | 1 |
| Lobar-pneumonia | ,, | 1 |
| Meningitis | ,, | 1 |
| Laceration of liver (accident) | ,, | 1 |
| Gunshot wound, abdomen | ,, | 1 |
| Total | | 15 |

(2) *Morbid Histology.*—Two hundred and eighty-eight pieces of tissue were received from 237 individuals. 61 were malignant and 15 benign neoplasms. The findings were as follows :—

## (1)—Neoplasms.

### (A) BENIGN.

| Type | Position | Race | Number |
|---|---|---|---|
| Papilloma ... | Ear ... ... ... | European ... ... | 1 |
| | Nose ... ... ... | ,, ... ... | 1 |
| Fibroma ... | Breast ... ... ... | African ... ... | 1 |
| | ,, ... ... ... | European ... ... | 1 |
| | Vagina ... ... ... | African ... ... | 1 |
| | Arm ... ... ... | ,, ... ... | 1 |
| | Scalp ... ... ... | ,, ... ... | 1 |
| Fibromyoma ... | Uterus ... ... ... | ,, ... ... | 1 |
| Myoma ... ... | Bladder ... ... ... | ,, ... ... | 1 |
| Adenoma ... | Prostate ... ... ... | ,, ... ... | 1 |
| | Thyroid ... ... ... | ,, ... ... | 1 |
| | Rectum ... ... ... | ,, ... ... | 1 |
| Chondroma ... | Knee ... ... ... | ,, ... ... | 1 |
| Epulis ... ... | Jaw ... ... ... | ,, ... ... | 1 |
| Polypus ... ... | Nose ... ... ... | ,, ... ... | 1 |
| | | Total ... | 15 |

### (B) MALIGNANT.

*Carcinoma.*

| Type | Position | Race | Number |
|---|---|---|---|
| Squamous ... | Breast ... ... ... | African ... ... | 1 |
| | Ulcer, leg ... ... ... | ,, ... ... | 6 |
| | Larynx ... ... ... | European ... ... | 1 |
| | Femoral gland ... ... | African ... ... | 1 |
| | Penis ... ... ... | ,, ... ... | 2 |
| | Eye ... ... ... | ,, ... ... | 1 |
| | Bladder ... ... ... | ,, ... ... | 1 |
| | Face ... ... ... | ,, ... ... | 1 |
| | Mesenteric glands... ... | ,, ... ... | 1 |
| | Cervix uteri ... ... | ,, ... ... | 1 |
| | Nose ... ... ... | European ... ... | 1 |
| | Rodent ulcer, face ... | ,, ... ... | 1 |
| | | Total ... | 18 |
| Adenocarcinoma | Pancreas ... ... ... | African ... ... | 1 |
| | Colon ... ... ... | European ... ... | 1 |
| | Rectum ... ... ... | Arab ... ... | 1 |
| | Stomach ... ... ... | African ... ... | 1 |
| | Colon ... ... ... | ,, ... ... | 1 |
| | Cervix uteri ... ... | ,, ... ... | 1 |
| | Breast ... ... ... | ,, ... ... | 4 |
| | Bileduct ... ... ... | ,, ... ... | 2 |
| | Liver, primary ... ... | ,, ... ... | 3 |
| | ,, secondary ... ... | ,, ... ... | 1 |
| | Parotid gland ... ... | ,, ... ... | 1 |
| | Eyeball ... ... ... | ,, ... ... | 1 |
| | | Total ... | 18 |
| | | Total carcinoma ... | 36 |

*Sarcoma.*

| Type | Position | Race | Number |
|---|---|---|---|
| Melanoma ... | Eye ... ... ... | African ... ... | 1 |
| | Foot ... ... ... | ,, ... ... | 1 |
| Round celled ... | Orbit ... ... ... | ,, ... ... | 2 |
| | Paranephritic ... ... | ,, ... ... | 1 |
| | Omentum ... ... ... | ,, ... ... | 1 |
| | Masseter muscle ... ... | ,, ... ... | 1 |
| | Medullary canal ... ... | ,, ... ... | 1 |
| Polymorphic ... | Liver ... ... ... | ,, ... ... | 1 |
| | Clavicle ... ... ... | ,, ... ... | 1 |
| Spindle celled ... | Abdominal wall ... ... | ,, ... ... | 1 |
| Fibrosarcoma ... | Uterus ... ... ... | ,, ... ... | 3 |
| | Leg ... ... ... | ,, ... ... | 1 |
| | Arm ... ... ... | ,, ... ... | 1 |
| Lymphosarcoma | Bladder ... ... ... | Asiatic ... ... | 1 |
| Chondrosarcoma | Tibia ... ... ... | African ... ... | 1 |
| | Hand ... ... ... | ,, ... ... | 1 |
| | | Total ... | 19 |

(c) OTHER NEOPLASMS.

| Type | Position | Race | Number |
|---|---|---|---|
| Teratoma ... | Testis ... ... ... | African ... ... | 1 |
| | Uterus ... ... ... | ,, ... ... | 1 |
| | Site not stated ... ... | ,, ... ... | 1 |
| | Intestine ... ... ... | ,, ... ... | 1 |
| | Ovary ... ... ... | ,, ... ... | 1 |
| Mixed parotid ... ... ... ... ... | | ,, ... ... | 1 |
| | | Total ... | 6 |

| | |
|---|---|
| Total Neoplasms:— | |
| Benign ... ... ... ... ... ... | 15 |
| Malignant: | |
| Carcinoma ... ... ... ... ... | 36 |
| Sarcoma ... ... ... ... ... | 19 |
| Others ... ... ... ... ... ... ... | 6 |
| Total ... | 76 |

(2)—LOCAL CONDITIONS.

| Type | Race | Number |
|---|---|---|
| Cirrhosis ... ... ... ... ... ... | African ... ... | 3 |
| ,, ... ... ... ... ... ... | European ... ... | 1 |
| Varicose veins ... ... ... ... ... | African ... ... | 1 |
| Hernia ... ... ... ... ... ... | European ... ... | 1 |
| Abortion ... ... ... ... ... ... | Asiatic ... ... | 1 |
| Splenomegaly ... ... ... ... ... | African ... ... | 2 |
| Lobar-pneumonia ... ... ... ... ... | ,, ... ... | 2 |
| Appendicitis ... ... ... ... ... ... | ,, ... ... | 4 |
| ,, ... ... ... ... ... ... | European ... ... | 4 |
| ,, ... ... ... ... ... ... | Asiatic ... ... | 1 |
| Meningitis ... ... ... ... ... ... | African ... ... | 1 |
| Epididymitis ... ... ... ... ... ... | ,, ... ... | 2 |
| Adenitis ... ... ... ... ... ... | ,, ... ... | 2 |
| Typhoid ulcer ... ... ... ... ... | ,, ... ... | 1 |

| Type | Race | Number |
|---|---|---|
| Gumma liver ... ... ... ... ... | African ... ... | 1 |
| Tubercular pneumonia ... ... ... ... | ,, ... ... | 5 |
| ,, spleen ... ... ... ... ... | ,, ... ... | 1 |
| ,, testis ... ... ... ... ... | ,, ... ... | 1 |
| ,, glands ... ... ... ... ... | ,, ... ... | 1 |
| Nephritis ... ... ... ... ... ... | ,, ... ... | 1 |
| Mastitis ... ... ... ... ... ... | European ... ... | 1 |
| Pleurisy ... ... ... ... ... ... | African ... ... | 1 |
| Mycetoma ... ... ... ... ... ... | ,, ... ... | 1 |
| Normal placenta ... ... ... ... ... | ,, ... ... | 81 |
| Blood clot ... ... ... ... ... ... | ,, ... ... | 1 |
| Simple inflammations ... ... ... ... | ,, ... ... | 10 |
| Normal ... ... ... ... ... ... | European ... ... | 8 |
| ,, ... ... ... ... ... ... | African ... ... | 6 |
| Miscellaneous Veterinary ... ... ... ... | ... ... ... | 3 |
| | Total ... | 148 |

(3)—General Conditions.

| Type | Race | Numbe |
|---|---|---|
| Malaria ... ... ... ... ... ... | African ... ... | 2 |
| Toxæmia ... ... ... ... ... ... | ,, ... ... | 4 |
| ,, ... ... ... ... ... ... | European ... ... | 1 |
| Sleeping Sickness ... ... ... ... ... | African ... ... | 2 |
| Yaws ... ... ... ... ... ... ... | ,, ... ... | 2 |
| Hodgkins disease ... ... ... ... ... | ,, ... ... | 1 |
| Miliary tuberculosis ... ... ... ... | ,, ... ... | 1 |
| | Total general conditions ... | 13 |

*Summary.*

| | |
|---|---|
| Neoplasms ... ... ... | 76 |
| Local conditions ... ... | 148 |
| General conditions ... ... | 13 |
| Total ... | 237 |

1.—MUSEUM.

The museum is being gradually increased and now contains 400 specimens. Unfortunately, the dispensary building is not yet available and lack of space still hampers development. The chemical and medico-legal specimens are now kept separately for purposes of accommodation, and until such time as adequate space is obtained. Acknowledgment is made to Dr. S. H. Daukes of the Wellcome Medical Museum, whose work it was my good fortune to see during my recent leave. Through the courtesy of Dr. Daukes, it was possible to obtain a great deal of valuable information concerning the preparation of a museum suitable both for classification and teaching purposes. It is hoped that the latter aspect may be developed for the benefit of the native pupils now attending the medical course.

The pathological section of the museum contains pathological specimens, models, diagrams, skiagrams and photographs. In the chemical section Mr. Raymond has prepared a number of specimens of native plants, poisons, etc. In the preparation of both sections, the skill and ingenuity of Mr. Hammond has once more been invaluable.

J.—SPECIAL INVESTIGATIONS.

It is regretted that special investigations during the year were practically at a standstill. No comprehensive research could be undertaken with the limited and changing staff, and so investigations were confined to preliminary work connected with the recommendations of the Entebbe Conference of 1933. The principal items which were studied were :—

Normal blood of Africans.
Pneumonia.
Dysentery.
Bacteriology of water supplies.
Native plants and medicines.

Work on these subjects is to be continued during the coming year and it is hoped that useful information will be available in 1935.

## PART II.—VACCINE LYMPH INSTITUTE, MPWAPWA.

D. E. WILSON, M.B., Ch.B., *Medical Officer in Charge.*

STAFF.

D. E. Wilson, Medical Officer, 14th March to 30th July, 1934, and 20th October to 31st December, 1934.

John Robert, African Dispenser, 14th March to 31st December, 1934.

In addition to the above staff there were five subordinates.

VACCINE LYMPH MANUFACTURE.

During the latter part of 1933 and beginning of 1934 the manufacture of vaccine lymph at Mpwapwa had to stop as owing to shortage of staff there was no one available to relieve the Medical Officer in charge. The Institute was closed for a period of eight months. Fortunately the reserve stock available in 1933 was sufficient for the needs of the Territory during that period. When manufacture was resumed in March, 1934, it was found that the seed lymph which had been stored in Dar es Salaam at a temperature of about 6°C. had become reduced in virulence so much that the total yield of pulp from four calves amounted to 17·00 grammes. By a double monkey calf passage the virulence was restored and our first batch of lymph was prepared on 30th April, 1934.

FINANCIAL.

The total cost of upkeep for the period 14th March to 31st December, 1934, including all salaries, stores and animals, was approximately £874 10s. 0d. The value of lymph sold to other governments was £75, therefore the actual cost of upkeep of the Institute was £799 10s. 0d.

BUILDINGS.

No new buildings were erected.

MANUFACTURE.

One hundred and seventeen calves passed through the Institute during the year and lymph was collected from one hundred and fifteen of these, the remaining two being returned for some minor ailment. No calf died in the Institute.

| Year | Calves used | Total pulp in grms. | Average yield per calf | Minimum yield per calf | Maximum |
|---|---|---|---|---|---|
| 1929 | 131 | 2,984·5 | 22·8 | 2·3 | 66·6 |
| 1930 | 243 | 4,624·2 | 19·0 | — | — |
| 1931 | 162 | 3,347·0 | 20·6 | 5·5 | 44·0 |
| 1932 | 83 | 2,612·8 | 31·5 | 11·8 | 75·0 |
| 1933 | 70 | 2,210·7 | 30·7 | 8·0 | 56·0 |
| 1934 | 115 | 3,198·1 | 27·8 | 2·9 | 65·8 |

During the year 673,750 doses of lymph were manufactured. The only change in the technique of manufacture was the use for dilution of a mixture of glycerine and distilled water with a pH of 7·3 approximately. In previous years the pH was not tested. The mixture is made as follows: To one thousand cubic centimetres of the glycerine water mixture ten to eleven cubic centimetres of a 5% solution of sodium carbonate are added. After sterilization in the autoclave the pH is found to be about 7·3.

The lymph as in former years is tested frequently for the presence of pathogenic micro-organisms. The media chiefly used are :—

1. Nutrient Agar.
2. Glucose Agar for anærobic stab culture.
3. McConkey's Medium.
4. Robertson's Bullock Heart Medium for the detection of organisms belonging to the genus Clostridium.

Anærobiasis was effected by the use of Buchner's tubes with pyrogallic acid and caustic soda.

The lymph still continued to "take" in high dilutions 1 : 300,000 when manufactured to 1 : 40,000 before issue.

DISTRIBUTION.

The number of doses issued was approximately the same as 1933. There were no extensive outbreaks of smallpox. The following table shows the annual issue figures since 1928 :—

| | | | |
|---|---|---|---|
| 1928 ... ... | 388,698 | 1932 ... ... | 596,250 |
| 1929 ... ... | 389,500 | 1933 ... ... | 817,762 |
| 1930 ... ... | 1,613,350 | 1934 ... ... | 949,620 |
| 1931 ... ... | 1,003,800 | | |

The amounts issued to the various provinces during the year are shown in the attached table.

The 100,000 doses sent to Moshi were for the use of the Northern Province and Tanga line. It is sent in bulk by air and stored in the refrigerator at the Laboratory in Moshi.

Lymph was distributed from Dar es Salaam Laboratory to coastal districts other than Tanga as in previous years.

Fifteen thousand doses were supplied on repayment to the Zanzibar Government.

RESULTS.

These are as in former years judged by reports where vaccinations have been done under European supervision. In these cases they have shown a uniformly high percentage of takes varying from 100% to 80%.

## General Examinations.

1. BLOOD EXAMINATIONS.

| | 1933 | 1934 |
|---|---|---|
| No. of slides examined ... ... ... ... | 833 | 527 |
| No. positive malaria ... ... ... | 320 | 148 |
| ,, ,, spirillum ... ... ... | 59 | 62 |
| ,, ,, malaria and spirillum ... | 3 | 4 |
| ,, ,, filaria ... ... ... | — | 1 |
| ,, negative ... ... ... ... | 451 | 312 |

## Vaccine Lymph Return.

| Provinces | Population | Density of population | Districts | Smallpox | | Doses of Lymph Issued | |
|---|---|---|---|---|---|---|---|
| | | | | Cases | Deaths | District | Total for Province |
| Central ... ... ... | 579,712 ... | 15·5 ... | Dodoma ... ... ... | — | — | 13,100 | |
| | | | Singida ... ... ... | — | — | 6,000 | |
| | | | Kondoa ... ... ... | — | — | 7,300 | |
| | | | Mkalama... ... ... | — | — | 7,800 | |
| | | | Manyoni ... ... ... | — | — | 6,000 | |
| | | | Mpwapwa ... ... | — | — | 1,000 | |
| | | | | | | ——— | 41,200 |
| Tanga ... ... ... ... | 355,914 ... | 22·1 ... | Tanga ... ... ... | 68 | 25 | 40,000 | |
| | | | Pangani ... ... ... | — | — | 500 | |
| | | | | | | ——— | 40,500 |
| Northern ... ... ... | 344,198 ... | 10·8 ... | Moshi ... ... ... | — | — | 100,000 | |
| | | | Masai ... ... ... | — | — | 1,200 | |
| | | | | | | ——— | 101,200 |
| Eastern ... ... ... | 619,191 ... | 14·6 ... | Dar es Salaam... ... | — | — | 23,400 | |
| | | | Bagamoyo ... ... | — | — | 4,000 | |
| | | | Morogoro ... ... | — | — | 25,100 | |
| | | | Kilosa ... ... ... | — | — | 26,000 | |
| | | | Mahenge... ... ... | — | — | 5,000 | |
| | | | Rufiji ... ... ... | — | — | 4,900 | |
| | | | | | | ——— | 88,400 |
| Lindi ... ... ... ... | 543,413 ... | 9·3 ... | Lindi ... ... ... | — | — | 23,500 | |
| | | | Kilwa ... ... ... | — | — | 21,300 | |
| | | | Mikindani ... ... | — | — | 500 | |
| | | | Masasi ... ... ... | 3 | — | — | |
| | | | Tunduru ... ... | — | — | 2,400 | |
| | | | Songea ... ... ... | — | — | 10,860 | |
| | | | | | | ——— | 58,560 |

VACCINE LYMPH RETURN.—(*contd.*)

| PROVINCES | POPULATION | Density of population | DISTRICTS | SMALLPOX | | DOSES OF LYMPH ISSUED | |
|---|---|---|---|---|---|---|---|
| | | | | Cases | Deaths | District | Total for Province |
| IRINGA ... ... ... ... | 491,911 ... | 12·8 ... | Iringa ... ... ... | 54 | 4 | 31,800 | |
| | | | Njombe ... ... ... | 92 | 3 | 48,000 | |
| | | | Rungwe ... ... ... | 104 | 3 | — | |
| | | | Mbeya ... ... ... | 64 | — | 18,860 | |
| | | | Tukuyu ... ... ... | — | — | 70,000 | |
| | | | | | | | 168,660 |
| LAKE ... ... ... ... | 1 246,073 ... | 31·9 ... | Bukoba ... ... ... | — | — | 18,000 | |
| | | | Biharamulo ... ... | — | — | 6,000 | |
| | | | Mwanza ... ... ... | — | — | 153,500 | |
| | | | Musoma ... ... ... | — | — | 64,200 | |
| | | | Shanwa ... ... ... | — | — | 21,500 | |
| | | | | | | | 263,200 |
| WESTERN ... ... ... | 842,228 ... | 8·2 ... | Tabora ... ... ... | 26 | 2 | 53,350 | |
| | | | Shinyanga ... ... | — | — | 35,850 | |
| | | | Nzega ... ... ... | — | — | 17,000 | |
| | | | Kahama ... ... ... | — | — | 2,600 | |
| | | | Kigoma ... ... ... | — | — | 58,100 | |
| | | | Ufipa ... ... ... | — | — | 6,000 | 172,900 |
| Total ... | 5,022,640 ... | 13·7 ... | — ... | 411 | 37 | | 934,620 |

| 2. SPUTUM EXAMINATIONS. | 1933 | 1934 |
|---|---|---|
| Total number ... ... ... ... ... | 9 | 15 |
| Negative ... ... ... ... ... | 7 | 12 |
| *M. tuberculosis* present ... ... ... | 2 | 3 |
| 3. SMEARS EXAMINED FOR GONOCOCCI. | | |
| Total number ... ... ... ... ... | 4 | 4 |
| Gonococci present ... ... ... ... | 4 | 3 |
| 4. EXAMINATION OF FÆCES. | | |
| Total number ... ... ... ... ... | 6 | 6 |
| Negative ... ... ... ... ... | 3 | 4 |
| Ankylostome ova ... ... ... ... | 1 | 1 |
| *Entamœba histolytica* ... ... ... | 1 | 1 |
| Eggs of Ascaris ... ... ... ... | 1 | — |

5 URINARY DEPOSITS.

Pus cells in two.

Bilharzia ova in two.

6. NASAL SMEARS.

One nasal smear revealed the presence of *M. leprœ*.

During 1934 two blood cultures were done. One revealed the presence of *Bacillus typhosus* which was agglutinated by the patient's serum. The other was done on a case whose serum agglutinated *Brucella abortus* (Bang). A gram negative micrococcus was grown which was agglutinated by the patient's serum. Further work is being done on this subject. Of interest was the isolation on four occasions of hæmolytic streptococci from the urine of a European child aged three years. A vaccine was made for him at the Medical Laboratory, Dar es Salaam. Six cultures done since treatment have failed to reveal the presence of further streptococci.

SEROLOGICAL EXAMINATIONS.

Agglutination tests :

(a) For T.A.B.

Seven were negative and one agglutinated. *B. typhosus* 1/250.

(b) For *Brucella abortus* (Bang) = 209 done.

Two were positive up to 1/1,000 and 207 were negative. The same two serums also agglutinated *Brucella melitensis*. The serum of a cow suffering from contagious abortion also agglutinated both *Brucella abortus* and *melitensis*.

COMPLEMENT FIXATION TEST.

*For syphilis.*—The Wassermann reaction.

| | |
|---|---|
| Number done ... ... ... ... ... | 46 |
| Number + + ... ... ... ... ... | 19 |
| ,, + ... ... ... ... ... | 5 |
| ,, + − ... ... ... ... ... | 6 |
| ,, negative ... ... ... ... | 16 |

The Kahn test.

| | |
|---|---|
| Total number done ... ... ... ... ... | 190 |
| Number positive ... ... ... ... | 118 |
| ,, negative (includes any doubtful) ... | 72 |
| Total examinations ... | 1,034 |

## Part III.—Chemical Division, Dar es Salaam.

W. D. Raymond, B.Sc., A.I.C., *Analytical Chemist.*

During the year 1934, 1,066 samples were examined compared with 633 in 1933. These samples can be classified thus :—

| | | | |
|---|---|---|---|
| Milks ... ... ... | 608 | Brought forward ... | 800 |
| Mealie meals ... ... | 66 | Poisons and viscera ... | 33 |
| Condensed milk ... ... | 35 | Drugs ... ... ... | 23 |
| Other foodstuffs ... ... | 15 | Local medicines ... | 39 |
| Pombe (native beer) ... | 19 | Bloodstained articles ... | 8 |
| Other alcoholic liquids ... | 16 | Urine (biochemical) ... | 101 |
| Waters ... ... ... | 31 | Blood ( ,, ) ... | 30 |
| Aerated waters ... ... | 10 | Miscellaneous ... ... | 32 |
| Carried forward ... | 800 | Total ... | 1,066 |

and were received from the following departments : Administration, Customs, Medical, Police, Public Works, Railways and Veterinary.

I wish to acknowledge valuable assistance received from the Professor of Pharmacology, Witwatersrand University, and the staff of the East African Agricultural Research Station, Amani.

Notes on some of the more important subjects dealt with during the year are given below :—

### FOODSTUFFS.

The majority of the milk samples were analysed for the Veterinary Dairy. Of 162 other samples of milk collected in Dar es Salaam township 10 were below the prescribed standards. Methods for the preservation of milk during transmission to Dar es Salaam from up-country stations were devised and since the inception of this scheme 51 samples have been examined of which 21 were below the prescribed standard. Some of these up-country samples show gross adulteration and extension of the present system of analytical control is desirable.

Condensed milks were examined in connection with recent legislation and of 35 samples three were reported as containing less than 9% milk fat.

Various other foodstuffs were examined and although adulteration of European foodstuffs is rare, native foodstuffs show a poor standard of quality. At present there is no effective food legislation and it is recommended that the subject be considered by Government at an early date.

### WATER.

Work during the year has included reports on the cause of the brown deposits found in Dar es Salaam main, purification of the Tabora water supply and the corrosion of aluminium parts of the Public Works Department motor lorries.

### POMBE (LOCAL BEER).

In connection with legislation to control the sale of pombe, work was carried out to fix standards of quality. Regular analyses of the Dar es Salaam pombe will be carried out in future, and it is anticipated that this control will effect a higher standard of uniformity and quality than has been obtained hitherto.

### DENATURED SPIRITS.

More nauseous denaturants are required to prevent the native from drinking spirits. The use of ½% Caoutchoucine and ½% Pyridine in alcohol in-

tended for burning and the use of diethyl phthalate in surgical spirit promises a satisfactory solution of this difficult problem.

FATAL MEDICO-LEGAL CASES.

Exhibits covering 47 deaths have been received but 37 of these deaths were children at Malangali School. The remaining 10 fatal cases can be classified thus :—

Non-natives, 4 deaths : 2 negative, 1 *Jatropha multifida* (child), and 1 massive dose of quinine (suicide).

Natives, 6 deaths : 2 negative, 1 alkaloid probably Erythrophlein, 1 arsenic, 2 probably *Euphorbia tirucalli.*

The deaths at Malangali were due to the accidental administration of cattle dip in doses containing 19 grains arsenious oxide. In the investigation of this case two possible sources of the cattle dip were discovered. Analytical evidence was obtained to show that the dip administered to the children was identical in composition with only one of the possible sources.

Medical officers experience difficulty in obtaining suitable containers for the collection of chemico-legal specimens. Standard chemico-legal boxes have been designed and will shortly be brought into use.

CO-OPERATION.

Notes have been exchanged with the Government Chemist, Zanzibar, and the Biochemist, Mpwapwa, on the subject of co-operation during home leave periods. The closing down of chemical work during this period, which has hitherto been practised, is undesirable.

NATIVE MEDICINES AND POISONS.

A start has been made in collecting information concerning native medicines and poisons. A few of the more interesting medicines, etc., collected during the year are referred to below :—

*Acocanthera friesiorum and spp.* (Mchunguti).—Active principle, Glucoside. Used in the preparation of arrow poison. One specimen of an arrow poison with details of its preparation was received from Musoma. One fatal case of a man who was shot by a poisoned arrow and died within two hours was reported during the year. Examination of this arrow showed it to contain a poisonous glucoside (probably Ouabain).

*Albizzia anthelmintica* (Ngata).—Used locally for vague stomach pains and as an anthelmintic. The several favourable reports published regarding this plant indicate that it might be worthy of clinical study.

*Cannabis sativa* (Bhangi).—Active principle resin. This preparation is usually smoked. One case was reported during the year.

*Datura spp.* (Mnanaa).—Active principle alkaloid. The ground seeds are added to pombe (local beer) to enhance the intoxicating powers. It is probably used also for homicidal purposes.

*Erythrophlœum guineense* (Mwavi).—Active principle alkaloid. Used for trial by ordeal and also for homicidal purposes.

*Euphorbia tirucalli* (Manyara).—Active principle unknown. Used as a fish poison and in small doses for "stomach trouble." There is evidence to show that this plant is poisonous to animals and men. Experiments on rats performed early in the year indicated that the juice was fatal in oral doses of the order of 0·4ml. but later experiments have failed to confirm this. The matter requires further study. (See also under heading medico-legal cases.)

*Myristica fragans* (Mkungu manga).—Active principle essential oil. In rather common use by women only. It produces symptoms of intoxication and is probably used as an emmenagogue.

*Strophanthus eminii* (Msungululu).—Active principle glucoside. Used in the preparation of arrow poison. One of its local names is "Mwelli mwelli" and there is little doubt that this name occurring in "Mit Emin Pasha ins Herz von Afrika" refers to this plant.

*Tephrosia vogelii* (Utupa).—Active principle tephrosin. Used as fish poison. Fairly successful trials of this as a larvicide are reported by the Malaria Research Laboratory.

*Mchape cult.*—This widespread cult which employs a medicine for neutralizing the evil effects of witchcraft is referred to in the Report of the Provincial Commissioners for 1933. Four samples of the medicine "Mchape" have been received during the year and all the samples differed widely in composition. Specimens varied from putrifying water to a tannin-containing extract from the bark of a tree.

MISCELLANEOUS.

Various miscellaneous problems dealt with during the year include specifications for soap, ghee and mealie meal for Government use, advice to Railways concerning chromium plating, preparation of melanin for malaria work, local cinchona bark, local palm oil as a source of Vitamin A, yield of alcohol from sugar and the agenda of the coming Medical Research Conference. A course of lectures in elementary science was delivered to student dispensers.

## APPENDIX I.

### Weekly Water Samples, Dar es Salaam.

| DATE | Main Water (ccs.) | | | | Control (Laboratory Tap) | | | |
|---|---|---|---|---|---|---|---|---|
| | 25 | 10 | 1 | 0·1 | 25 | 10 | 1 | 0·1 |
| 3rd January ... ... | — | AR | — | — | — | AR | — | — |
| 9th ,, ... ... | — | — | INT | — | INT | — | — | — |
| 15th ,, ... ... | INT | — | — | — | INT | — | — | — |
| 19th ,, ... ... | — | — | PY | — | — | — | — | — |
| 25th ,, ... ... | — | PY | — | — | PY | — | — | — |
| 3rd February ... ... | — | INT | — | — | — | C | — | — |
| 12th ,, ... ... | AR | — | — | — | — | — | — | — |
| 15th ,, ... ... | — | — | — | — | PY | — | — | — |
| 21st ,, ... ... | — | — | — | — | — | — | — | — |
| 1st March ... ... | — | — | — | — | — | — | — | — |
| 7th ,, ... ... | — | — | — | — | — | — | — | — |
| 17th ,, ... ... | AR | — | — | — | PY | — | — | — |
| 26th ,, ... ... | PY | — | — | — | — | — | — | — |
| 3rd April ... ... | — | — | — | — | — | — | — | — |
| 5th ,, ... ... | — | — | — | — | — | — | — | — |
| 12th ,, ... ... | — | — | — | — | — | — | — | — |
| 21st ,, ... ... | — | PY | — | — | — | — | — | — |
| 28th ,, ... ... | INT | — | — | — | PY | — | — | — |
| 10th May ... ... | — | PY | — | — | PY | — | — | — |
| 18th ,, ... ... | PY | — | — | — | PY | — | — | — |
| 28th ,, ... ... | PY | — | — | — | PY | — | — | — |
| 5th June ... ... | PY | — | — | — | PY | — | — | — |
| 11th ,, ... ... | PY | — | — | — | PY | — | — | — |
| 14th ,, ... ... | PY | — | — | — | PY | — | — | — |
| 20th ,, ... ... | — | — | — | — | — | — | — | — |
| 28th ,, ... ... | — | — | — | — | — | — | — | — |
| 9th July... ... ... | AR | — | — | — | PY | — | — | — |
| 16th ,, ... ... | AR | — | — | — | AR | — | — | — |
| 19th ,, ... ... | — | — | — | — | — | — | — | — |
| 27th ,, ... ... | PY | — | — | — | PY | — | — | — |
| 1st August ... ... | — | — | — | — | — | — | — | — |
| 10th ,, ... ... | — | — | — | — | — | — | — | — |
| 16th ,, ... ... | PY | — | — | — | — | — | — | — |
| 27th ,, ... ... | — | — | — | — | — | — | — | — |
| 3rd September ... ... | AR | — | — | — | — | — | — | — |
| 7th ,, ... ... | PY | — | — | — | — | — | — | — |
| 14th ,, ... ... | — | — | — | — | — | — | — | — |
| 24th ,, ... ... | — | — | — | — | — | — | — | — |
| 1st October ... ... | PY | — | — | — | PY | — | — | — |
| 12th ,, ... ... | PY | — | — | — | — | — | — | — |
| 22nd ,, ... ... | — | PY | — | — | PY | — | — | — |
| 29th ,, ... ... | — | AR | — | — | AR | — | — | — |
| 5th November ... | — | AR | — | — | PY | — | — | — |
| 10th ,, ... ... | PY | — | — | — | — | — | — | — |
| 15th ,, ... ... | PY | — | — | — | PY | — | — | — |
| 23rd ,, ... ... | PY | — | — | — | PY | — | — | — |
| 29th ,, ... ... | PY | — | — | — | — | — | — | — |
| 10th December ... ... | — | — | PY | — | — | — | — | — |
| 17th ,, ... ... | — | PY | — | — | — | — | — | — |

## Other Water Samples.

| Date | Source of the sample | Samples (ccs.) | | | |
|---|---|---|---|---|---|
| | | 25 | 10 | 1 | 0·1 |
| 20th January ... | A well in the corner of Kitchwele and Sultan Streets, D'Salaam. | — | — | — | INT |
| 29th ,, ... | do. | — | — | — | INT |
| 3rd February ... | A well in Khoja School, D'Salaam. | — | AR | — | — |
| 16th March ... | From Messrs. Karimjee Jiwanjee & Co. | — | — | — | — |
| 16th April ... | A new well at 39/40 plot Upanga Road, Dar es Salaam. | — | PY | — | — |
| 11th June ... ... | A well in Upanga Shamba, Dar es Salaam. | — | — | — | AR |
| 5th November ... | A well in Bagamoyo Street, Dar es Salaam. | — | — | AR | — |

C = Organisms of *B. coli* group; AR = Organisms of ærogenes group; PY = Organisms of pyocyaneus group; INT = Organisms of intermediate group; PARA = Organisms of paracolon group.

It will be noted that true excretal *B. coli* was not found in any sample. *B. pyocyaneus* was commonly present, but its significance is not great. The presence of organisms of the "intermediate" group usually indicates remote pollution.

## APPENDIX II.

**Katathermometer Readings. (Taken at 9 a.m. daily in a Laboratory room in Dar es Salaam under constant conditions.)**

| MONTHS | Date | Highest Air | | Date | Lowest Air | | Mean Kata. | Mean Air Temp. C. |
|---|---|---|---|---|---|---|---|---|
| | | Kata. | Temp. C. | | Kata. | Temp. C. | | |
| January ... ... ... | 3rd | 9·4 | 29·5 | 29th | 5·1 | 30·5 | 6·83 | 25·44 |
| February ... ... ... | 16th | 9·5 | 30·0 | 5th | 5·2 | 30·75 | 6·7 | 30·00 |
| March ... ... ... | 14th | 9·0 | 27·5 | 6th | 6·0 | 27·75 | 7·26 | 28·60 |
| April ... ... ... | 26th | 8·5 | 27·0 | 17th | 6·3 | 29·0 | 7·3 | 23·47 |
| May ... ... ... | 4th | 10·3 | 26·75 | 11th | 7·4 | 26·5 | 8·3 | 26·2 |
| June ... ... ... | 23rd | 10·7 | 25·0 | 1st | 8·1 | 27·0 | 9·2 | 25·2 |
| July ... ... ... ... | 4th | 12·3 | 24·75 | 20th | 8·2 | 26·0 | 5·1 | 24·94 |
| August ... ... ... | 1st | 10·3 | 25·0 | 9th | 7·6 | 26·0 | 8·8 | 28·57 |
| September ... ... ... | 24th | 14·0 | 25·5 | 14th | 7·0 | 26·0 | 8·2 | 25·6 |
| October ... ... ... | 1st | 11·0 | 26·0 | 15th | 7·2 | 27·5 | 7·9 | 26·52 |
| November ... ... ... | 9th | 10·7 | 28·0 | 12th | 6·3 | 28·5 | 7·6 | 27·8 |
| December ... ... ... | 13th | 8·2 | 28·0 | 12th | 6·1 | 28·5 | 7·5 | 28·25 |

It will be noted in the above table that the highest Katathermometer readings were in May-November and bore an inverse ratio to the temperature. At all times, however, the readings were considerably below the figure regarded as healthy for a working atmosphere in England.

APPENDIX III.

## Summary of Examinations.

| | DAR ES SALAAM. | MPWAPWA. |
|---|---|---|
| Parasitological ... ... ... | 6,348 | 540 |
| Serological ... ... ... ... | 1,052 | 453 |
| Bacteriological ... ... ... | 1,476 | 41 |
| General ... ... ... ... | 702 | — |
| Public Health ... ... ... | 3,453 | — |
| Pathological ... ... ... | 304 | — |
| Medico-legal ... ... ... | 15 | — |
| Chemical ... ... ... ... | 1,066 | — |
| Total ... | 14,416 | 1,034 |
| Grand Total ... | 15,450 | |
| Total 1933 ... | 15,722 | |

H. J. O'D. Burke-Gaffney,
*Acting Deputy Director of Laboratory Service.*

31st January, 1935.

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